

Semi-annual Operation and Maintenance Report No. 26 (November 2014-April 2015)

Wisconsin Chrome
Kaukauna, Wisconsin

June 8, 2015

Terracon Project No. 58127047

WDNR BRRTS No. 02-45-000225



Prepared for:
Wisconsin Department of Natural Resources
Oshkosh, Wisconsin

Prepared by:
Terracon Consultants, Inc.
Franklin, Wisconsin

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Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

June 8, 2015

Wisconsin Department of Natural Resources
Remediation and Redevelopment Program
625 East County Road Y, Suite 700
Oshkosh, Wisconsin 54901-9731

Attention: Ms. Jennifer Borski

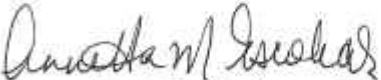
Re: Semiannual Operation and Maintenance Report No. 26
Wisconsin Chrome
Kaukauna, Wisconsin
WDNR BRRTS No. 02-45-000225
Terracon Project No. 58127047

Dear Ms. Borski:

Terracon Consultants, Inc. (Terracon) has prepared this Semiannual Operation and Maintenance Report to summarize the activities that took place at the above-referenced site from November 1, 2014, through April 30, 2015. The report documents and includes a summary of groundwater sampling results, treatment system performance, and operations & maintenance activities.

Sincerely,

Terracon

 For
Scott A. Hodgson, P.G.
Senior Project Manager


Blaine R. Schroyer, P.E.
Principal/Office Manager

SAH/BRS/DGW:sah/N:\Projects\2012\58127047\Working Files\DRAT-TS (Proposal-Reports-Communications)\Semi-Annual O_M Reports\Spring 2015\Spring 2015 OM Report 26.docx

Copies to: Paul Farrell, Outagamie County Facilities Manager
File



Terracon Consultants, Inc. 9856 South 57th Street Franklin, Wisconsin 53132
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1.0 INTRODUCTION

This Semiannual Operation and Maintenance Report was prepared by Terracon Consultants, Inc. (Terracon) for the Wisconsin Chrome Site for the reporting period November 1, 2014 through April 30, 2015 and includes the following information:

- Background information.
- Summary of April 2015 groundwater sampling results.
- Cross-sectional view of the contaminant plume.
- Time versus concentration graphs for selected wells and parameters.
- Graphs of influent and effluent flow and chromium concentrations.

1.1 Background Information

The Wisconsin Chrome Site (Figure 1, Appendix A) is a former chromium electroplating facility that was operated by the Wisconsin Chromium Corporation (WCC). Site investigation activities identified chromium and volatile organic compound (VOC) contamination at the facility. A groundwater extraction and treatment system, including collection trenches (A and B), angle injection wells, and an aboveground treatment facility, was constructed in 2001. VOCs from Trench A are treated by carbon, and chromium from Trenches A and B is treated by ion exchange. GeoTrans, Inc., installed the treatment system in accordance with the Remediation Plan approved by the Wisconsin Department of Natural Resources (WDNR).

In August 2001, GeoTrans injected 330 gallons of 10 percent ferric chloride into the four angle wells that extend below the former WCC building. The injection was completed in order to stabilize the hexavalent chromium contamination in the underlying groundwater. An evaluation of the injection was summarized in the June 14, 2004, GeoTrans report, *Supplemental Site Investigation Evaluation of Ferric Chloride Injection at the Former Wisconsin Chromium Corporation Site at 2101 Hyland Avenue, Kaukauna, Outagamie County, Wisconsin*.

In October 2006, Foth Infrastructure & Environment, LLC (Foth), injected 300 gallons of 11.8 percent sodium bisulfite solution into the angle wells under a separate approval from the WDNR. Injection activities were reported to the WDNR in the June 2007 Foth report, *Groundwater Injection Documentation and Monitoring*. The report concluded that due to the poor hydraulic connection between the injection points and the groundwater monitoring wells, there was no measurable response in groundwater quality from the groundwater injection, but that continued monitoring may show impacts in the future.

In December 2007, Foth was authorized by the WDNR to complete a bench scale treatability test and a pilot scale reductant injection test near monitoring well MW-7R. The pilot injection work was

completed by Foth in April 2009. Foth prepared an update of the additional work in their May 14, 2009, First Quarter 2009 Operations & Maintenance Report No. 14.

In February 2009, Foth installed one injection well adjacent to monitoring well nest MW-7. A full-scale injection of a reductant was planned for 2011 via an injection network directly beneath the building and throughout the site. However, injection was put on hold until funding became available. In 2013, Foth was contracted by WDNR to complete the full-scale injection. The full-scale injection was completed in summer 2014. Prior to injection, additional monitoring wells and injection wells were constructed as part of the injection program to provide the necessary distribution and monitoring network.

On May 1, 2012, Terracon was contracted by the WDNR to perform the operations and maintenance (O&M) activities at the site.

2.0 GROUNDWATER SAMPLING

2.1 Groundwater Sampling Procedures

Site features for the Wisconsin Chrome site are shown on Figure 1, Appendix A. Groundwater monitoring at the facility is performed in accordance with the current monitoring schedule (Table 4 of the WDNR's Request for Bid/Scope of Work dated April 13, 2012) with minor additions requested via email. The monitoring is completed semiannually, typically in March (weather dependent) and September.

Groundwater sampling procedures are as follows:

- Open all monitoring wells to be measured per the monitoring schedule, allow to equilibrate, and measure depth to water from the top of the well casing.
- Purge via low-flow techniques with a dedicated QED bladder pump, if present, pump controller, and water quality meter with flow-through cell until parameters are stable to within 10% for three consecutive readings taken at least two minutes apart.
- Document purge volume and field testing data. Groundwater sampling field sheets are included in Appendix C.
- Containerize purge water and discharge to treatment system.
- Collect groundwater and quality control samples per the monitoring schedule by use of a dedicated QED bladder pump, if present, or via disposable bailer.
- Transport groundwater samples to laboratory for analysis.

Field parameter measurements include temperature, pH, specific conductance, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Field measurements are made prior to sample

collection, and laboratory samples for VOCs are collected prior to filtered metals samples. Laboratory samples are properly containerized, preserved, and transported to Pace Analytical Laboratory (Green Bay, Wisconsin) under chain-of-custody.

During the April 2015 sampling event, monitoring well MW-7B was found to be damaged. The well apparently had heaved pushing the flushmount lid up and then a vehicle ran over the well. As a result the bladder cap was damaged such that both the airline and waterline leaked so that the bladder could not be used to sample. Because the water level was too deep, a peristaltic pump could not be used to sample either. Consequently, the bladder was removed from the well and the well was carefully purged and sampled using a disposable bailer.

A summary of groundwater levels is provided in Table 1, Appendix B. A groundwater table contour map for the most recent sampling event is included as Figure 2, Appendix A .

3.0 GROUNDWATER SAMPLING RESULTS

3.1 Groundwater Sampling Results History

Historical groundwater monitoring results are included in Table 2, Appendix B. Please see the notes in Table 2 regarding sampling methods and parameters that have changed over time.

3.2 April 2015 Groundwater Sampling Results

Groundwater sampling was completed on April 15-16, 2015. Groundwater sampling results are summarized in Table 2, and laboratory analytical reports and groundwater sampling information sheets are included in Appendix C. Following is a discussion of the April 2015 groundwater results by parameter.

3.2.1 Total Chromium

Total chromium concentrations exceed its Wisconsin Administrative Code, Chapter NR 140 enforcement standard (ES) (100 micrograms per liter [$\mu\text{g/L}$]) at the following wells:

- MW-2 (1,740 $\mu\text{g/L}$).
- MW-6R (441 $\mu\text{g/L}$).
- MW-7R (6,780 $\mu\text{g/L}$).

Time versus total chromium concentrations for wells MW-7R and P-7B, which are in the vicinity of the pilot injection test, are provided as Figures 3 and 4, respectively, Appendix A.

A plan view of total chromium concentrations and the extent of ES exceedances for April 2015 is provided as Figure 5, Appendix A.

3.2.2 Volatile Organic Compounds

Selected wells were sampled for VOCs in conformance with the monitoring schedule. Individual VOC concentrations exceeded ESs at the following monitoring wells:

- MW-6R (8.5 µg/L 1,1-dichloroethene).
- MW-7R (267 µg/L 1,1-dichloroethene; 1,280 µg/L 1,1,1-trichloroethane; and 10.0 µg/L trichloroethene).
- P-7A (82.2 µg/L 1,1-dichloroethene).
- P-7B (9,080 µg/L 1,1-dichloroethane; 736 µg/L 1,1-dichloroethene; and 18,800 µg/L 1,1,1-trichloroethane).

A plan view showing total VOC concentrations and the estimated extent of total VOC concentrations exceeding 100 µg/L for April 2015 is provided as Figure 6, Appendix A.

3.3 Cross-Section

Figure 7, Appendix A shows the vertical distribution of total chromium and total VOCs in groundwater. The vertical extent of the VOC plume is interpolated based on the most recent results from piezometer P-7C (September 2013). The estimated lateral extent of total chromium and total VOCs above 100 µg/L is also shown on the cross-section.

4.0 TREATMENT SYSTEM PERFORMANCE AND OPERATION & MAINTENANCE ACTIVITIES

4.1 Treatment System Performance

A total of approximately 103,911 gallons (as interpolated from collected data based on the total effluent readings) of groundwater was treated and discharged to the sanitary sewer system from November 1, 2014, through April 30, 2015. Flow meter readings are provided in Table 3, Appendix B. Sump A and B influent sample and effluent sample results are summarized in Table 2. An updated O&M form 4400-194 is included in Appendix D, which provides a summary of the system performance during the reporting period.

From the period of November 1, 2014 through April 30, 2015, a total of 0.30 pounds of chromium and 0.75 pounds of VOCs were removed from groundwater. The mass removal summary is shown in Table 4, Appendix B.

Quarterly VOC samples collected between the carbon canisters indicate increasing total VOC concentrations as well as several individual compounds such that 1,2-dichloroethene, 1,1,1-dichloroethene, and vinyl chloride have been detected above their respective ES in the last three quarterly sampling events (see Table 2).

4.2 Operation & Maintenance Activities

Site visits to perform routine O&M activities and collect monthly/quarterly system monitoring samples typically occurred on the first or second Thursday of the month throughout the reporting period.

Annual and semi-annual routine maintenance visits/activities included the following:

- Ion-exchange canisters were switched out on November 14, 2014. Numerous trips were made to the site for high-low effluent pH alarms to try to balance the system after exchanging the canisters. Sodium hydroxide injection had to be performed until the canisters had been sufficiently flushed after which the caustic pump was again shut off.
- The annual fire extinguisher inspection/service was performed by Ahern on March 24, 2015.

Other non-routine system maintenance visits/activities during this reporting period included the following:

- Since the pumps had not pumped in the auto mode for several weeks, after the snow melt allowed access, the Sump A and B manholes were accessed to inspect the pumps on March 11, 2015. The static water level in both sumps was below the high switch and, therefore, the pumps would not turn on in auto mode. The water level in Sump B was only at the base of the pump. The Sump B pump was turned on and it did operate, but did not discharge in the shed. As such, it appeared that the underground discharge line between the sump and the shed was frozen.
- On April 16, 2015, Terracon pulled the Sump B pump and inspected it for problems. The pump was in good shape and was operable, but the underground discharge line was still frozen. By April 22, 2015, the ice plug had melted and the Sump B pump was discharging to the shed.
- Monitoring well construction, abandonment, and repair services were performed on April 22, 2015, and are described in detail in the next section.
- On April 29, 2015, the empty Hawkins sulfuric acid (4) and sodium hydroxide (1) drums were removed from the site for disposal.
- One full acid drum, one full sodium hydroxide drum, two partially full acid drums, and an empty acid drum were picked up by Univar ChemCare on April 30, 2015,

for disposal as hazardous waste (full and partial drums) or non-hazardous (empty drum), as appropriate.

5.0 WELL ABANDONMENT, CONSTRUCTION, AND REPAIR

At the request of WDNR, Terracon abandoned existing monitoring well P-2A, constructed a replacement well (P-2AR), and repaired eight existing monitoring wells on April 22, 2015. Details of the work performed follow:

- Monitoring well P-2A was abandoned with grout in general conformance with Wisconsin Administrative Code (WAC), Chapter NR 141. Because the flushmount protective casing was encased within the 10-foot by 10-foot concrete pad, the flushmount lid was removed, but the casing was left in place and filled with concrete. A completed abandonment form is included in Appendix E.
- Replacement monitoring well P-2AR was constructed approximately 5 feet to the north of abandoned monitoring well P-2A just off the existing concrete pad. The well was constructed as a piezometer with a 5-foot long, 0.010-inch slot screen set with the bottom of the screen at 33 feet below ground surface. Monitoring well P-2AR was completed with a flushmount protective cover set in a 3-foot by 3-foot rebar reinforced concrete pad adjoining the existing 10-foot by 10-foot concrete pad. Three drums of soil cuttings were generated during the well construction activities. The drums were labeled and staged near the shed where the empty drums had been stored. A boring log and completed monitoring well construction form are included in Appendix E.
- Terracon opened the newly constructed well on April 29, 2015, to develop the well; however, the well was found to be dry. The well will have to be developed in the future after groundwater has equilibrated in the well.
- The flushmounts around observation well MW-12 and piezometer P-12A were removed and replaced with new flushmount protective casings set in 3-foot by 3-foot concrete pads reinforced with rebar.
- Observation well MW-5 was extended above grade and completed with protop protective cover as planned so that it will not get buried with snow and gravel due to snowplow and grading activities. The old flushmount was set in a 3-foot by 3-foot concrete pad. Consequently, the flushmount lid was removed and the protop protective cover was set over the polyvinyl chloride (PVC) casing and inside the flushmount. A concrete seal was placed around the protop and finished flush with the existing concrete pad.
- For protection at observation well MW-5, a concrete construction barrier was placed on the north side of the well, which will provide much better protection from trucks and snow plows than bumper posts. The top of the concrete barrier was

painted orange for extra visibility. Jeff Schramm of Midwest Carriers gave his approval for the concrete barrier

- The PVC casing at monitoring wells MW-7R, pilot injection well, P-7A, and MW-19 was cut down so that the flushmount covers could be secured.
- The broken slip cap on the pilot injection well was replaced with a 4-inch expandable cap after cutting down the PVC.
- The PVC at observation well MW-20 was cracked down to about 8-inches. It was dug out, cut off, and then extended with a coupler and several inches of new PVC casing.
- The top of casing (TOC) elevation of the replacement well P-2AR and each of the repaired monitoring wells including MW-5, MW-7R, P-7A, MW-12, P-12A, MW-19, MW-20, and the pilot injection well was re-surveyed. The TOC elevations for these wells were updated within Table 1.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the laboratory analysis from the April 15-16, 2015, sampling event indicate that the groundwater continues to exceed the 1992 NR 140, WAC, ESs for total chromium and four different VOCs (1,1-dichloroethane; 1,1-dichloroethene; 1,1,1-trichloroethane; and trichloroethene). The areal extent of the total chromium plume appears to be approximately the same as for the September 2014 event, which was expanded from its May 2014 extent down-gradient beyond observation well MW-6R and upgradient beyond observation well MW-2. The total chromium concentration in observation well MW-2 increased from 1,240 µg/L in September 2014 to 1,740 µg/L in April 2015. The total chromium concentration has also continued to consistently increase in downgradient observation well MW-6 over the last three sampling rounds from 28.5 µg/L in May 2014 to 441 µg/L in April 2015. The highest total chromium concentration documented in April 2015 was 6,780 µg/L in observation well MW-7R, which was significantly less than in September 2014 when 36,300 µg/L total chromium was detected in observation well MW-7R. Not enough data is available to document whether the significant decrease was related to the reductant treatment injection that took place in summer 2014.

The areal extent of the VOC plume has appeared to be relatively stable since September 2013. Total VOC concentrations have increased significantly at depth in the heart of the plume at piezometer P-7B in May 2014 compared to 2013, and has had similar, but stable concentrations in September 2014 and April 2015. The containment trenches appear to be functioning generally as designed when the pumps are operating.

The groundwater laboratory analysis and the groundwater elevations indicate that the majority of the groundwater plume is generally being controlled horizontally by the groundwater containment trenches when the system is operating at design flow rates, but with seasonal variations.

However, it appears that downgradient observation well MW-6 and upgradient observation MW-2 may not be within the capture zone of the trenches.

Approximately 103,911 gallons of groundwater were extracted from the containment trenches (based on the total effluent readings) from November 1, 2014, through April 30, 2015, which is approximately 130,000 gallons less than were extracted during the previous reporting period. We believe this was a result of low groundwater levels due to the deep frost and lack of precipitation during the winter months.

Based on the laboratory analysis from the April 15-16, 2015, sampling event and the laboratory analysis from the effluent sampling during the reporting period, Terracon recommends continued operation of the groundwater extraction system with discharge of the treated groundwater to the Heart of the Valley sanitary sewer system. However, Terracon notes the following items that may require action in the future.

- The increasing VOCs in the quarterly samples collected between carbon canisters suggest that the first carbon canister may be spent or close to being spent, such that breakthrough of the first canister has occurred. At this time VOCs in the effluent have not increased, which suggests that the second carbon canister is still providing treatment. This situation should be closely monitored and the carbon canister(s) replaced when appropriate, either by replacing both canisters concurrently or rotating the second canister to the first position, and placing a new canister in the second position.
- The increasing chromium and VOC concentrations in observation well MW-6R suggest that it may not lie fully within the capture zone of Trench A. The capture zone may be increased somewhat if Pump A could be lowered in the sump. Currently, the pump lies approximately 3 feet or more off bottom because of significant silt accumulation in the sump. Potentially the pump could be lowered if the silt was removed from the bottom of the sump, and the high float position adjusted.

7.0 GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from the system operation and maintenance activities and laboratory chemical analyses at the indicated locations or from other information discussed in this report. This report does not reflect variations in subsurface stratigraphy, hydrogeology, and contaminant distribution that may occur across the site. Actual subsurface conditions may vary and may not become evident without further assessment.

This report was prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted environmental engineering practices. No warranties, express or implied are intended or made. In the event any changes in the nature or location of suspected sources of contamination as outlined in this report are observed, the conclusions and recommendations contained in this report shall not be valid unless these changes are reviewed and the opinions of this report are modified or verified in writing by Terracon.

8.0 REFERENCES

Foth Infrastructure & Environment, LLC, 2007, Groundwater Injection Documentation and Monitoring, June 2007.


Foth Infrastructure & Environment, LLC, 2009, First Quarter 2009 Operations & Maintenance Report No. 14: Green Bay, WI, May 14, 2009.

GeoTrans, Inc., 2004, Supplemental Site Investigation Evaluation of Ferric Chloride Injection at the Former Wisconsin Chromium Corporation Site at 2101 Hyland Avenue, Kaukauna, Outagamie County, WI, June 14, 2004.

McMahon Associates, Inc., 2005, Quarterly Progress Report #4, October, November, December 2004, and Semi-Annual Operations & Maintenance Report, July 2004 – December 2004

9.0 CERTIFICATIONS

I, Blaine R. Schroyer, P.E., hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

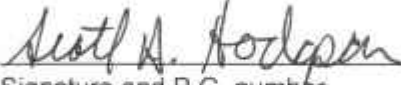


Signature and P.E. number E-31505

Project Engineer
Title



I, Scott A. Hodgson, P.G., hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



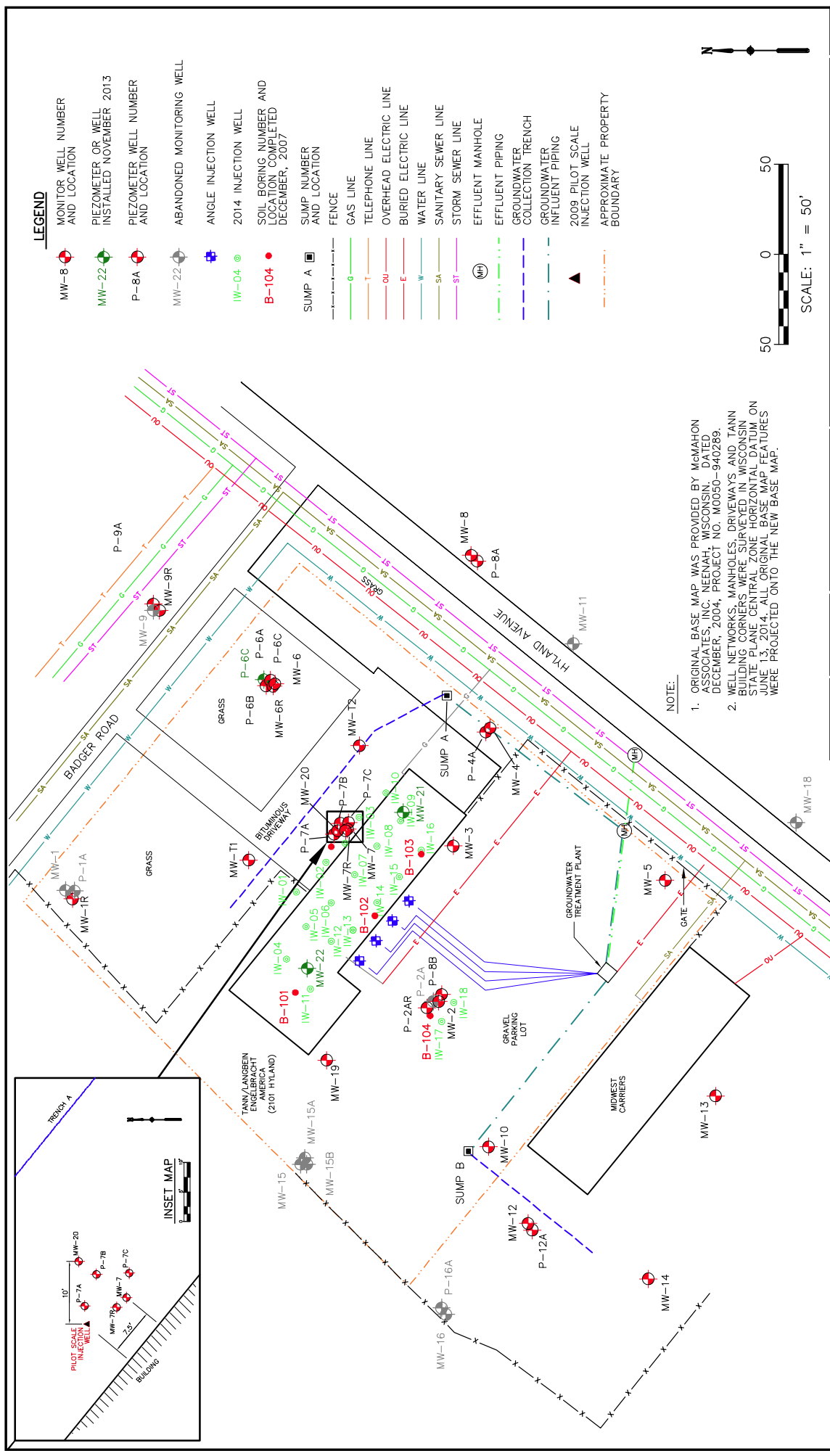
Signature and P.G. number PG-1229

June 8, 2015 _____
Date

Project Geologist
Title

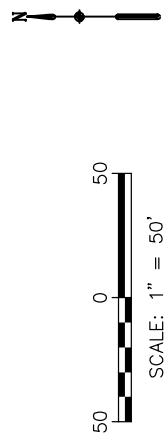
APPENDIX A FIGURES

- Figure 1 Site Map
- Figure 2 Groundwater Contour Map (April 2015)
- Figure 3 MW-7R Total Chromium
- Figure 4 P-7B Total Chromium
- Figure 5 Total Chromium Plume (April 2015)
- Figure 6 Total VOC Plume (April 2015)
- Figure 7 Cross Section A – A'
- Figure 8 Influent Chromium Concentrations



LEGEND

- MW-8 MONITOR WELL NUMBER AND LOCATION
- MW-22 PIEZOMETER OR WELL INSTALLED NOVEMBER 2013
- P-8A PIEZOMETER WELL NUMBER AND LOCATION
- MW-22 ABANDONED MONITORING WELL
- ANGLE INJECTION WELL
- IW-04 2014 INJECTION WELL
- B-104 SOIL BORING NUMBER AND LOCATION COMPLETED DECEMBER, 2007
- SUMP A SUMP NUMBER AND LOCATION
- FENCE
- GAS LINE
- TELEPHONE LINE
- OVERHEAD ELECTRIC LINE
- BURIED ELECTRIC LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- EFFLUENT MANHOLE
- EFFLUENT PIPING
- GROUNDWATER COLLECTION TRENCH
- GROUNDWATER INFLUENT PIPING
- 2009 PILOT SCALE INJECTION WELL
- APPROXIMATE PROPERTY BOUNDARY

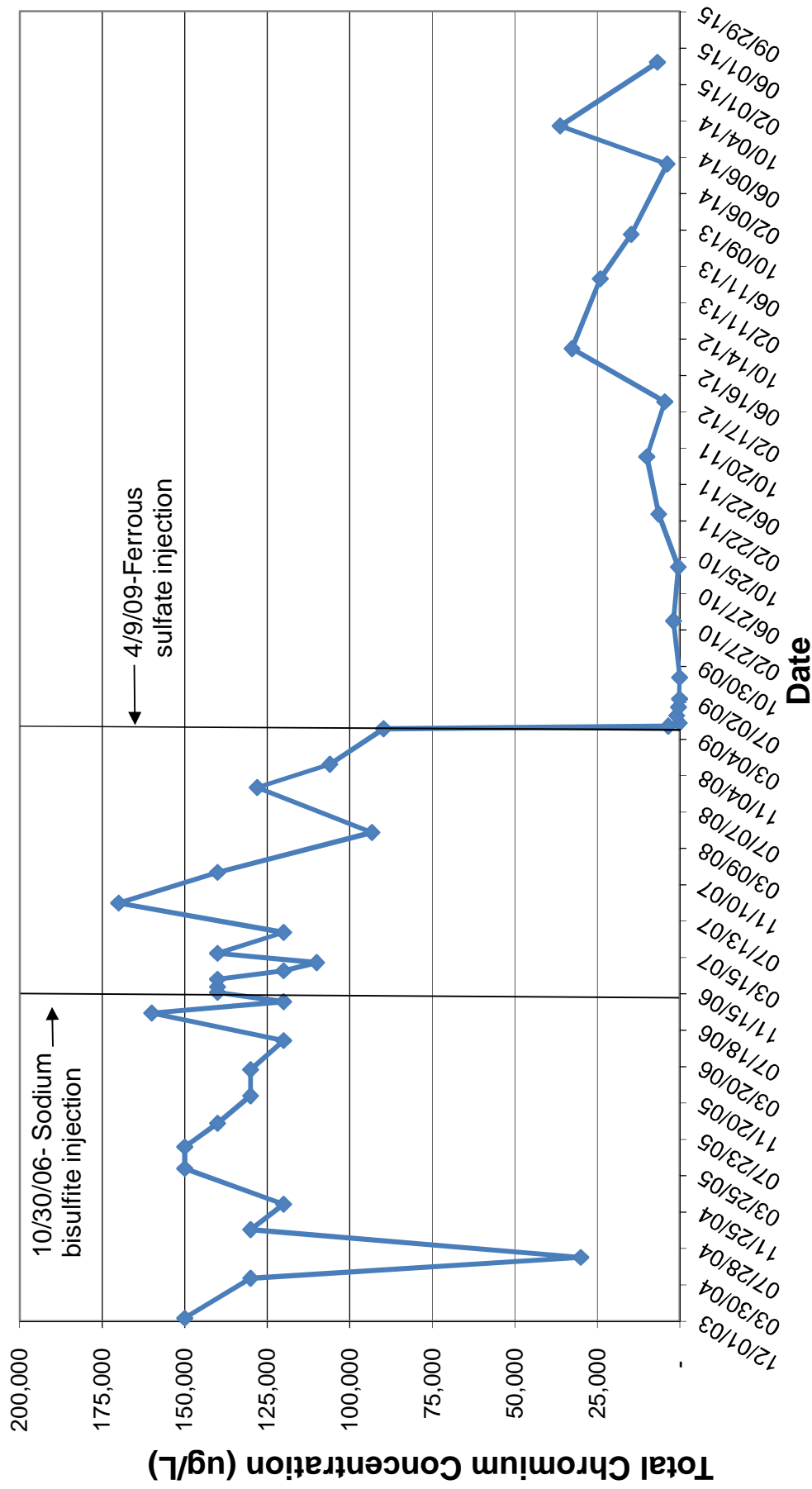


NOTE:

1. ORIGINAL BASE MAP WAS PROVIDED BY MCMAHON ASSOCIATES, INC., NEENAH, WISCONSIN, DATED DECEMBER, 2004. PROJECT NO. M0050-940289.
2. WELL NETWORKS, MANHOLES, DRIVEWAYS AND TANN BUILDING CORNERS WERE SURVEYED IN WISCONSIN STATE PLANE CENTRAL ZONE HORIZONTAL DATUM ON JUNE 13, 2014. ALL ORIGINAL BASE MAP FEATURES WERE PROJECTED ONTO THE NEW BASE MAP.

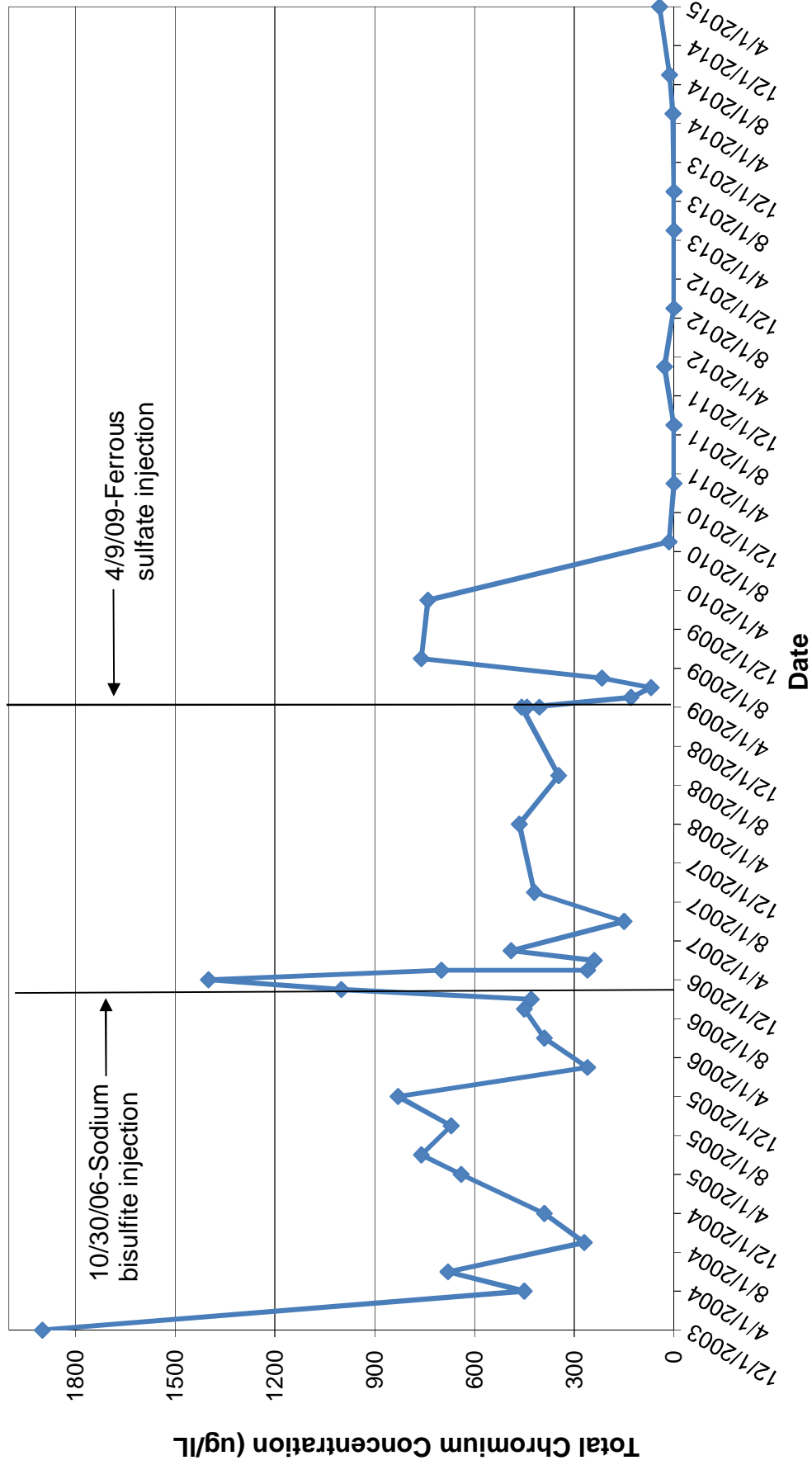
Project No. 5812707P	Scale: AS SHOWN	Drawn By: JMM	Checked By: SAH	Project Map: SAH	FIG. No. 1
Trerracon Consulting Engineers and Scientists 805 SOUTH 5TH STREET FOND DU LAC, WISCONSIN 54601-2588 PHONE: (920) 925-5888 FAX: (920) 925-5888	SITE MAP VDMR BRRTS #02-45-00225 WISCONSIN CHROME 2101 HIGHLAND AVENUE KAUKAUNA				

Figure 3
MW-7R Total Chromium¹
 Screen Depth: 17-27 feet
 Wisconsin Chrome, Kaukauna, Wisconsin / Project No. 58127047



¹ Chromium samples not field filtered 2003; field filtered 2004-2014.

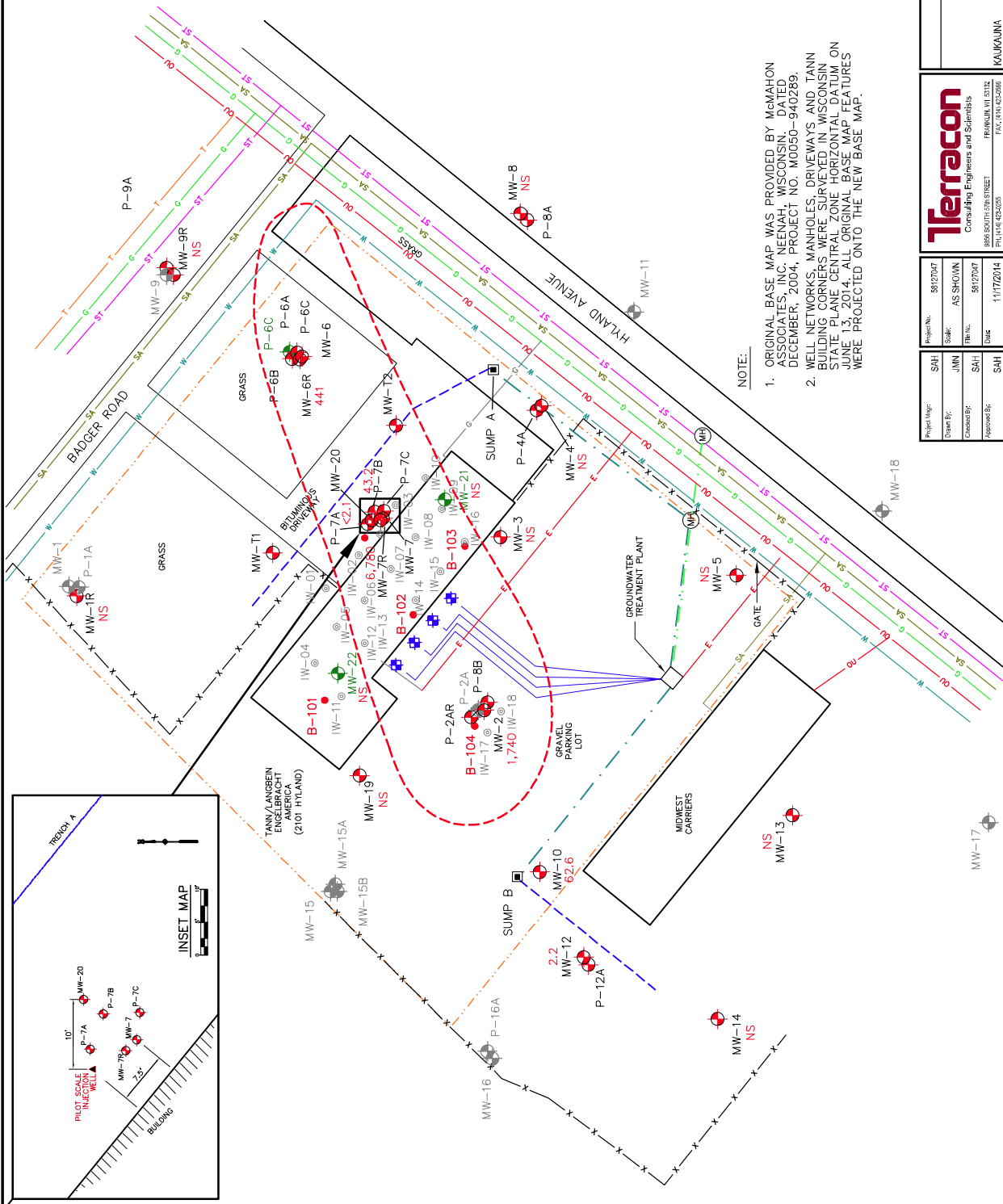
Figure 4
P-7B Total Chromium¹
 Screen Depth: 32-37 feet
 Wisconsin Chrome, Kaukauna, Wisconsin / Project #No. 58127047



¹ Chromium samples field filtered 1999-2000; field filtered 2004-2014.

LEGEND

- MW-8 MONITOR WELL NUMBER AND LOCATION
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- P-8A PIEZOMETER WELL NUMBER AND LOCATION
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- GROUNDWATER COLLECTION TRENCH
- GROUNDWATER INFLUENT PIPING
- 2009 PILOT SCALE INJECTION WELL
- APPROXIMATE PROPERTY BOUNDARY
- NS NOT SAMPLED
- ESTIMATED HORIZONTAL EXTENT OF CHROMIUM IN THE GROUNDWATER ABOVE NR 140 ENFORCEMENT STANDARD OF 100 MICROGRAMS PER LITER (ug/L)



NOTE:

1. ORIGINAL BASE MAP WAS PROVIDED BY MCMHON ASSOCIATES, INC. NEENAH, WISCONSIN. DATED DECEMBER, 2004. PROJECT NO. M0050-940289.
2. WELL NETWORKS, MANHOLES, DRIVEWAYS AND TANN BUILDING CORNERS WERE SURVEYED IN WISCONSIN STATE PLANE CENTRAL ZONE HORIZONTAL DATUM ON JUNE 13, 2014. ALL ORIGINAL BASE MAP FEATURES WERE PROJECTED ONTO THE NEW BASE MAP.

Project No.	5812707P
Scale	AS SHOWN
Drawn By	JMM
Checked By	SAH
Project No.	5812707P
Date	11/17/2014
Drawn By	SAH
Checked By	SAH

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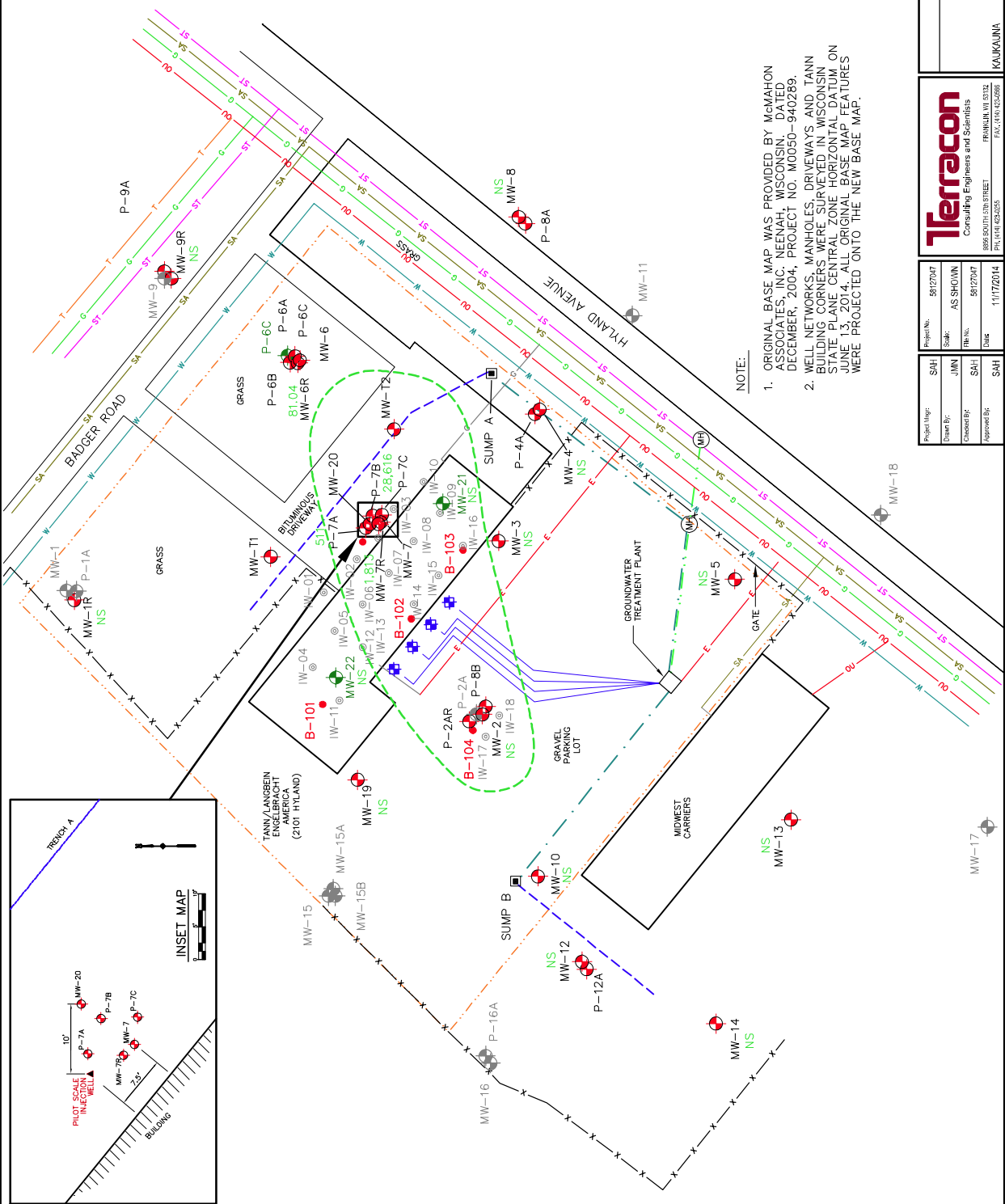
TOTAL CHROMIUM PLUME (APRIL 2015)
 VDNR BRRTS #02-45-00225
 WISCONSIN CHROME
 2101 HIGHLAND AVENUE

LEGEND

- MW-8 MONITOR WELL NUMBER AND LOCATION
- MW-22 PIEZOMETER OR WELL INSTALLED NOVEMBER 2013
- P-8A PIEZOMETER WELL NUMBER AND LOCATION
- MW-22 ABANDONED MONITORING WELL
- ANGLE INJECTION WELL
- IW-04 2014 INJECTION WELL
- B-104 SOIL BORING NUMBER AND LOCATION COMPLETED DECEMBER, 2007
- SUMP A SUMP NUMBER AND LOCATION
- FENCE
- GAS LINE
- TELEPHONE LINE
- OVERHEAD ELECTRIC LINE
- BURIED ELECTRIC LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- EFFLUENT MANHOLE
- EFFLUENT PIPING
- GROUNDWATER COLLECTION TRENCH
- GROUNDWATER INFLUENT PIPING
- 2009 PILOT SCALE INJECTION WELL
- APPROXIMATE PROPERTY BOUNDARY
- NS NOT SAMPLED
- ESTIMATED HORIZONTAL EXTENT OF TOTAL VOCs IN THE GROUNDWATER GREATER THAN 100 MICROGRAMS PER LITER (ug/L)



- NOTE:**
1. ORIGINAL BASE MAP WAS PROVIDED BY MCMAHON ASSOCIATES, INC. NEENAH, WISCONSIN. DATED DECEMBER, 2004. PROJECT NO. M0050-940289.
 2. WELL NETWORKS, MANHOLES, DRIVEWAYS AND TANN BUILDING CORNERS WERE SURVEYED IN WISCONSIN STATE PLANE CENTRAL ZONE HORIZONTAL DATUM ON JUNE 13, 2014. ALL ORIGINAL BASE MAP FEATURES WERE PROJECTED ONTO THE NEW BASE MAP.



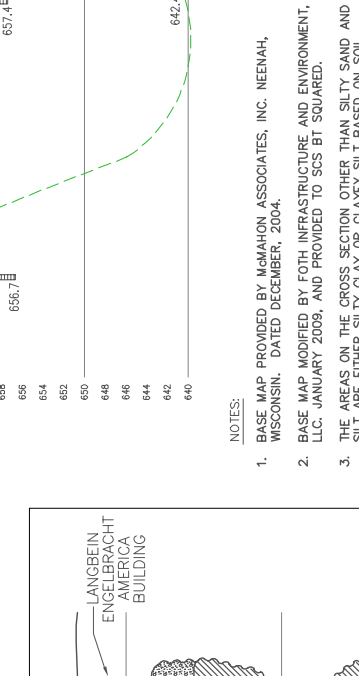
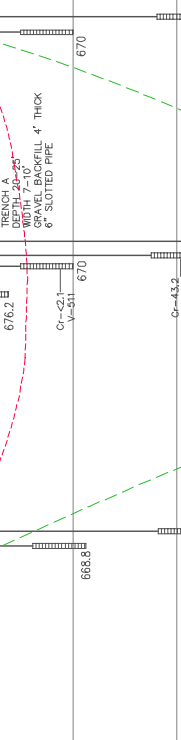
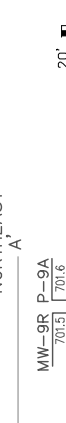
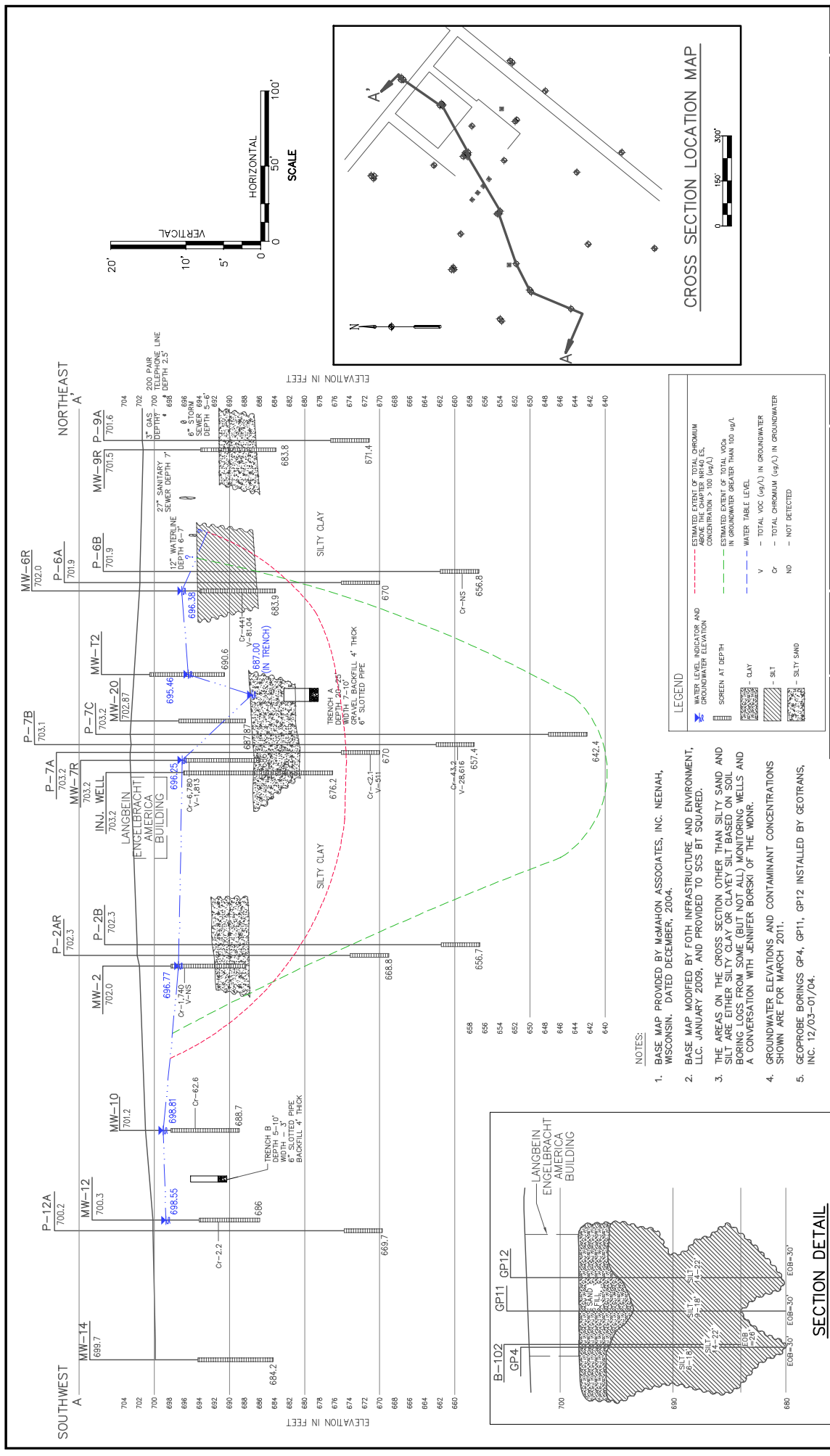
Terracon
 Consulting Engineers and Scientists
 505 SOUTH 5TH STREET
 FOND DU LAC, WISCONSIN 54601
 PHONE: (920) 925-5255
 FAX: (920) 925-5868

Project No.	5812707
Scale	AS SHOWN
Drawn By	JMM
Checked By	SAH
Project No.	5812707
Date	11/17/2014
Drawn By	SAH
Checked By	SAH

Project No.	5812707
Scale	AS SHOWN
Drawn By	JMM
Checked By	SAH
Project No.	5812707
Date	11/17/2014
Drawn By	SAH
Checked By	SAH

Project No.	5812707
Scale	AS SHOWN
Drawn By	JMM
Checked By	SAH
Project No.	5812707
Date	11/17/2014
Drawn By	SAH
Checked By	SAH

TOTAL VOC PLUME (APRIL 2015)
 WDMR BRRTS #02-45-00225
 WISCONSIN CHROME
 2101 HIGHLAND AVENUE
 KAUKAUNA

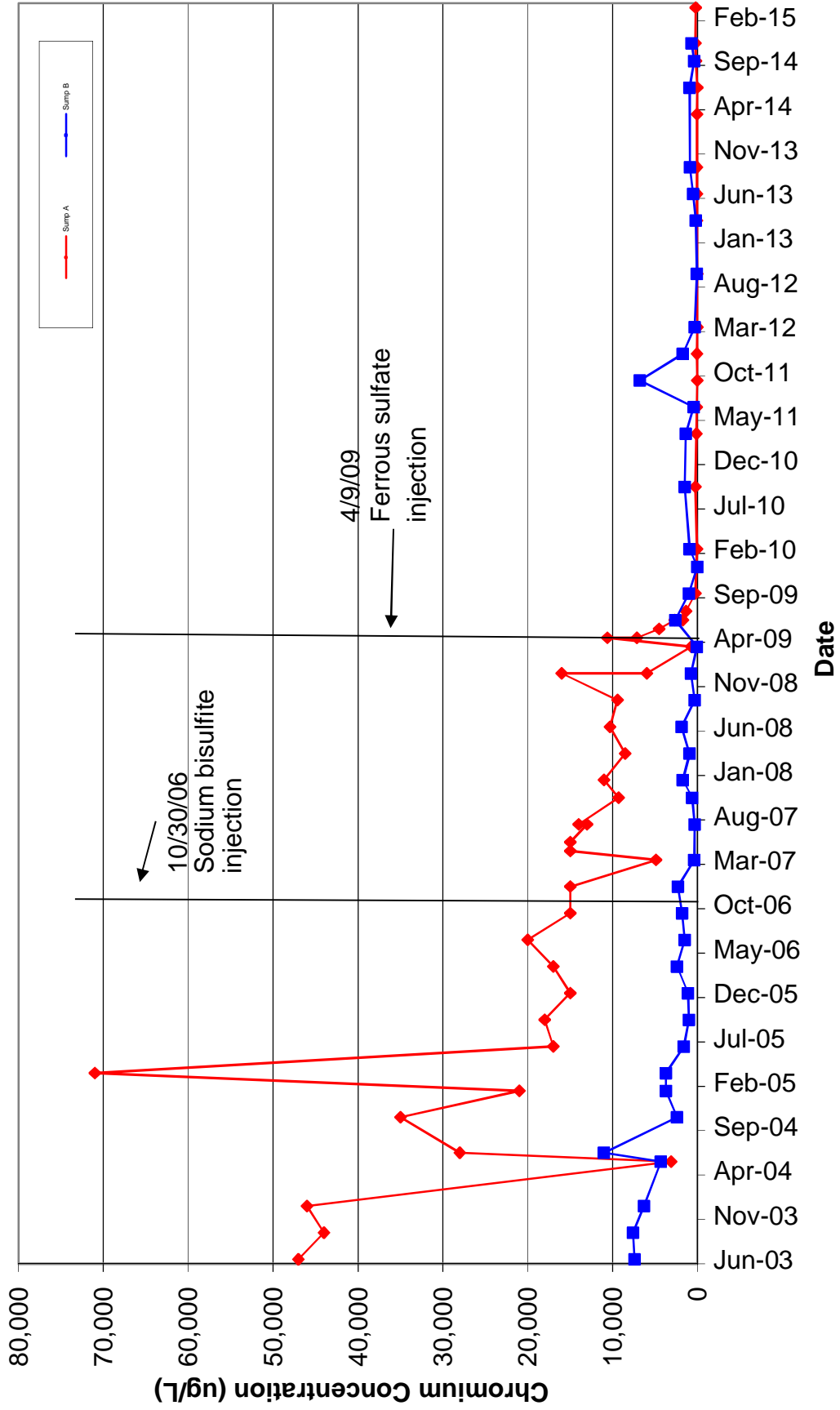


- NOTES:
1. BASE MAP PROVIDED BY McMAHON ASSOCIATES, INC. NEMAHA, WISCONSIN. DATED DECEMBER, 2004.
 2. BASE MAP MODIFIED BY FOTH INFRASTRUCTURE AND ENVIRONMENT, LLC. JANUARY 2009, AND PROVIDED TO SCS BT SQUARED.
 3. THE AREAS ON THE CROSS SECTION OTHER THAN SILTY SAND AND SILT ARE EITHER SILTY CLAY OR CLAYEY SILT BASED ON SOIL BORING LOGS FROM SOME (BUT NOT ALL) MONITORING WELLS AND A CONVERSATION WITH JENNIFER BORSKI OF THE WDR.
 4. GROUNDWATER ELEVATIONS AND CONTAMINANT CONCENTRATIONS SHOWN ARE FOR MARCH 2011.
 5. GEOPROBE BORINGS GP4, GP11, GP12 INSTALLED BY GEOTRANS, INC. 12/03-01/04.

Terracon Consulting Engineers and Scientists <small>500 SOUTH 4TH STREET FISHKILL, NY 12525 FAX: 845.252.5582</small>		PROJECT No. 58127007 DATE: AS SHOWN DRAWN BY: SAH CHECKED BY: BRS SECTION: 51/2/2015 DATE:	FIG. No. 7 CROSS SECTION AA' (APRIL 2015) WDR BRTS #02-45-00025 WISCONSIN CHROME 2101 HIGHLAND AVENUE WAUKESHA, WISCONSIN
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Figure 8
Influent Chromium Concentrations
 Unfiltered

Wisconsin Chrome, Kaukauna, Wisconsin Project No. 58127047



APPENDIX B TABLES

Table 1 Groundwater Elevations

Table 2 Groundwater Analytical Results

Table 3 Flow Meter Summary (Gallons)

Table 4 November 1, 2014 to April 30, 2015 Chromium and VOC Mass
Removal Summary

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
B-101	12/21/2007	23.65			
B-102	12/21/2007	23.15			
B-103	12/21/2007	10.55			
MW-1	6/18/2002	3.10	699.96	696.86	668.2 - 678.2
	9/30/2002	10.91		689.05	
	12/23/2002	11.62		688.34	
	3/31/2003	11.00		688.96	
	4/14/2003	10.17		689.79	
	6/16/2003	9.82		690.14	
	9/23/2003	10.21		689.75	
	4/28/2004	10.03		689.93	
	6/30/2005		700.10		
MW-1R	6/18/2002	1.37	700.05	698.68	687.0 - 697.0
	9/30/2002	7.39		692.66	
	12/23/2002	9.16		690.89	
	3/31/2003	4.03		696.02	
	4/14/2003	4.23		695.82	
	6/16/2003	4.28		695.77	
	9/23/2003	5.04		695.01	
	12/9/2003	4.50		695.55	
	6/29/2004	2.53		697.52	
	9/28/2004	9.43		690.62	
	12/13/2004	3.12		696.93	
	3/29/2005	7.05	700.05	693.00	
	6/27/2005	11.81	699.68	687.87	
	9/13/2005	11.61		688.07	
	12/13/2005	11.53		688.15	
	3/9/2006	11.81		687.87	
	6/13/2006	8.76		690.92	
	9/13/2006	7.63		692.05	
	1/2/2007	2.25		697.43	
	3/29/2007	3.31		696.37	
9/11/2007	4.20		695.85		
9/26/2008	8.15		691.53		
9/23/2009	4.82		694.86		
9/23/2010	0.30		699.38		
3/17/2011	0.30		699.38		
9/22/2011	10.17		689.88		
9/24/2013	4.91		694.77		
MW-2	6/18/2002	2.27	701.86	699.59	687.8 - 697.8
	9/30/2002	5.51		696.35	
	12/23/2002	7.70		694.16	
	3/31/2003	5.94		695.92	
	6/16/2003	3.66		698.20	
	9/23/2003	3.90		697.96	
	12/9/2003	4.60	701.88 [#]	697.28	

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-2 (cont.)	4/15/2004	4.20		697.68	
	6/22/2004	2.51		699.37	
	9/28/2004	7.23	701.58***	694.35	
	12/13/2004	4.53	701.58***	697.05	
	3/29/2005	6.05	701.58***	695.53	
	6/27/2005	4.85	701.69	696.84	
	9/13/2005	5.15		696.54	
	12/13/2005	6.30		695.39	
	4/7/2006	5.20		696.49	
	6/13/2006	3.70		697.99	
	9/14/2006	6.35		695.34	
	1/2/2007	4.39		697.30	
	3/29/2007	3.87		697.82	
	9/11/2007	5.15		696.54	
	12/21/2007	8.00		693.69	
	4/30/2008	1.80		699.89	
	9/26/2008	7.12		694.57	
	12/15/2008	7.75		693.94	
	4/17/2009	5.04		696.65	
	9/24/2009	5.42		696.27	
	3/29/2010	3.95		697.74	
	9/23/2010	10.15		691.54	
	3/17/2011	8.13		693.56	
	9/22/2011	4.67		697.02	
	3/21/2012	3.36		698.33	
	9/12/2012	4.90		696.79	
	4/30/2013	1.94		699.75	
	9/24/2013	4.38		697.31	
5/14/2014	1.42	701.39†	699.97		
9/18/2014	4.00		697.39		
4/15/2015	4.62		696.77		
MW-3	6/18/2002	3.60	702.99	699.39	686.4 - 696.4
	9/30/2002	8.40		694.59	
	12/23/2002	10.36		692.63	
	3/31/2003	6.13		696.86	
	6/16/2003	4.75		698.24	
	9/23/2003	4.82		698.17	
	12/9/2003	7.16	702.98 [#]	695.82	
	6/22/2004	3.95		699.03	
	9/28/2004	10.63		692.35	
	12/13/2004	5.19		697.79	
	3/30/2005	6.89		696.09	
	6/27/2005	8.00	702.02	694.02	
	9/13/2005	8.20		693.82	
	12/13/2005	8.26		693.76	
3/9/2006	7.47		694.55		

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-3 (cont.)	6/13/2006	6.87		695.15	
	9/12/2006	8.67		693.35	
	1/2/2007	5.40		696.62	
	3/29/2007	4.56		697.46	
	9/11/2007	7.62		694.40	
	9/26/2008	10.05		691.97	
	12/12/2008	9.20		692.82	
	9/23/2009	6.45		695.57	
	9/22/2011	6.33		695.69	
	9/12/2012	6.89		695.13	
	9/24/2013	6.22		695.80	
9/18/2014	5.99		696.03		
MW-4	6/18/2002	7.54	702.38	694.84	686.9 - 696.9
	9/30/2002	11.17		691.21	
	12/23/2002	12.73		689.65	
	3/31/2003	9.20		693.18	
	6/16/2003	8.97		693.41	
	9/23/2003	9.41		692.97	
	12/9/2003	9.93		692.45	
	4/20/2004	8.63		693.75	
	6/23/2004	8.27		694.11	
	9/28/2004	12.94		689.44	
	12/13/2004	8.88		693.50	
	3/30/2005	9.68		692.70	
	6/27/2005	10.70	702.39	691.69	
	9/13/2005	10.71		691.68	
	12/13/2005	10.45		691.94	
	3/9/2006	9.72		692.67	
	6/13/2006	9.78		692.61	
	9/13/2006	11.00		691.39	
	1/2/2007	8.25		694.14	
	3/29/2007	7.22		695.17	
	9/10/2007	8.15		694.24	
	9/26/2008	13.55		688.84	
	12/12/2008	12.78		689.61	
	9/23/2009	8.95		693.44	
	9/23/2010	7.70		694.69	
	3/17/2011	7.48		694.91	
9/22/2011	8.05		694.34		
9/12/2012	8.51		693.88		
9/24/2013	7.92		694.47		
9/18/2014	8.60		693.79		
MW-5	6/18/2002	2.92	701.27	698.35	684.9 - 694.9
	9/30/2002	6.95		694.32	
	12/23/2002	8.61		692.66	
	3/31/2003	4.18		697.09	

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-5 (cont.)	4/14/2003	4.66		696.61	
	6/16/2003	4.36		696.91	
	9/23/2003	4.78		696.49	
	12/9/2003	5.62		695.65	
	4/15/2004	5.62		695.65	
	6/22/2004	3.63		697.64	
	9/28/2004	9.38		691.89	
	12/13/2004	3.81		697.46	
	3/30/2005	3.85		697.42	
	6/27/2005	5.70	701.35	695.65	
	9/13/2005	6.65		694.70	
	12/14/2005	6.70		694.65	
	3/9/2006	4.86		696.49	
	6/13/2006	5.52		695.83	
	9/12/2006	4.37		696.98	
	1/2/2007	2.87		698.48	
	9/10/2007	4.25		697.10	
	9/26/2008	9.00		692.35	
	9/23/2009	6.28		695.07	
	9/23/2010	5.13		696.22	
9/22/2011	8.17		693.18		
9/12/2012	7.15		694.20		
9/24/2013	5.95		695.40		
9/18/2014	5.05		696.30		
MW-5 ²	4/22/2015		704.78		
MW-6	6/18/2002	4.16	701.78	697.62	
	9/30/2002	11.72		690.06	
	12/23/2002	11.74		690.04	
	3/31/2003	10.92		690.86	
	6/16/2003	8.71		693.07	
	9/23/2003	10.22		691.56	
	6/27/2005	4.15	701.79		
	9/23/2010	7.20		694.58	
	3/17/2011	1.40		700.38	
	9/18/2014	8.42		693.36	
MW-6R	12/9/2003	9.00	701.38	692.38	683.9 - 693.9
	4/28/2004	10.04		691.34	
	6/28/2004	5.67		695.71	
	9/28/2004	12.88		688.50	
	12/13/2004	8.12		693.26	
	3/30/2005	12.22		689.16	
	6/27/2005	11.49	701.42	689.93	
	9/13/2005	11.01		690.41	
	12/13/2005	10.73		690.69	

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-6R (cont.)	3/9/2006	11.48		689.94	
	6/13/2006	9.28		692.14	
	9/13/2006	10.85		690.57	
	1/2/2007	7.71		693.71	
	3/29/2007	6.29		695.13	
	9/10/2007	8.10		693.32	
	4/30/2008	4.80		696.62	
	9/26/2008	14.78		686.64	
	4/17/2009	10.68		690.74	
	9/23/2009	9.02		692.40	
	3/29/2010	4.81		696.61	
	9/23/2010	6.65		694.77	
	3/17/2011	0.60		700.82	
	9/22/2011	7.75		693.67	
	3/21/2012	3.50		697.92	
	9/12/2012	7.95		693.47	
	4/30/2013	2.81		698.61	
	9/24/2013	7.10		694.32	
5/14/2014	1.20		700.22		
9/18/2014	7.92		693.50		
4/15/2015	5.04		696.38		
MW-7	6/18/2002	4.92	703.00	698.08	690.8 - 700.8
	9/30/2002	8.49		694.51	
	12/23/2002	10.56		692.44	
	3/31/2003	7.69		695.31	
	6/16/2003	6.06		696.94	
	9/23/2003	6.41		696.59	
	6/27/2005	4.97		698.03	
MW-7R	12/9/2003	7.61	702.63	695.02	686.0 - 696.0
	4/28/2004	5.92		696.71	
	6/28/2004	5.05		697.58	
	9/28/2004	9.30		693.33	
	12/13/2004	6.18		696.45	
	4/18/2005	8.96		693.67	
	6/27/2005	8.33	702.76	694.43	
	9/13/2005	8.22		694.54	
	12/13/2005	8.29		694.47	
	3/9/2006	9.06		693.70	
	6/13/2006	7.30		695.46	
	9/13/2006	8.27		694.49	
	1/2/2007	6.75		696.01	
	3/29/2007	6.18		696.58	
	9/11/2007	7.20		695.56	
12/21/2007	7.15		695.61		
4/30/2008	6.05		696.71		
9/26/2008	9.52		693.24		

**Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047**

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-7R (cont.)	12/12/2008	9.68		693.08	
	4/17/2009	7.72		695.04	
	9/23/2009	7.12		695.64	
	3/29/2010	4.93		697.83	
	9/23/2010	5.40		697.36	
	3/17/2011	5.21		697.55	
	9/22/2011	5.90		696.86	
	3/21/2012	3.95		698.81	
	9/12/2012	6.40		696.36	
	4/30/2013	2.71		700.05	
	9/24/2013	6.75		696.01	
	5/14/2014	1.20	702.43†	701.23	
	9/18/2014	6.32		696.11	
	4/15/2015	6.18		696.25	
MW-7R ³	4/22/2015		702.30		
MW-8	6/18/2002	3.70	701.73	698.03	687.1 - 697.1
	9/30/2002	10.04		691.69	
	12/23/2002	7.93		693.80	
	3/31/2003	4.71		697.02	
	4/14/2003	4.29		697.44	
	6/16/2003	4.39		697.34	
	9/23/2003	6.29		695.44	
	12/9/2003	4.40		697.33	
	4/20/2004	4.31		697.42	
	6/30/2004	4.65		697.08	
	10/14/2004	12.16		689.57	
	12/13/2004	5.56		696.17	
	3/29/2005	3.90		697.83	
	6/27/2005	5.55	701.80	696.25	
	9/13/2005	13.05		688.75	
	12/14/2005	11.98		687.37	
	3/10/2006	9.98		691.82	
	6/13/2006	8.82		692.98	
	9/12/2006	10.95		690.85	
	1/2/2007	5.95		695.85	
	3/29/2007	5.88		695.92	
	9/10/2007	7.80		694.00	
	9/26/2008	12.38		689.42	
	9/23/2009	9.90		691.90	
9/23/2010	4.90		696.90		
3/17/2011	4.20		697.60		
9/22/2011	9.75		692.05		
9/12/2012	12.62		689.18		
9/24/2013	10.62		691.18		
9/18/2014	6.92		694.88		
MW-9	6/18/2002	7.47	701.10	693.63	686.5 - 696.5

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-9 (cont.)	9/30/2002	13.62		687.48	
	12/23/2002	13.64		687.46	
	3/31/2003	12.60		688.50	
	4/14/2003	8.98		692.12	
	6/16/2003	8.28		692.82	
	9/23/2003	8.56		692.54	
MW-9R	12/9/2003	9.38	700.67	691.29	683.8 - 693.8
	4/28/2004	9.74		690.93	
	6/29/2004	8.63		692.04	
	9/28/2004	14.10		686.57	
	12/13/2004	10.24		690.43	
	4/18/2005	27.90		672.77	
	6/27/2005	10.15	700.69	690.54	
	9/13/2005	14.31		686.38	
	12/13/2005	11.96		689.08	
	3/10/2006	8.75		691.94	
	6/13/2006	8.63		692.06	
	9/12/2006	14.60		686.09	
	1/2/2007	8.91		691.78	
	3/29/2007	8.10		692.59	
	9/10/2007	7.80		692.89	
	9/26/2008	16.60		684.09	
	9/23/2009	12.18		688.51	
	9/23/2010	9.67		691.02	
	3/17/2011	7.90		692.79	
	9/22/2011	11.10		689.59	
9/12/2012	14.09		686.60		
9/24/2013	11.75		688.94		
9/18/2014	8.56		692.13		
MW-10	6/18/2002	5.51	701.00	695.49	688.7 - 698.7
	9/30/2002	6.51		694.49	
	12/23/2002	7.26		693.74	
	3/31/2003	1.73		699.27	
	6/16/2003	6.15		694.85	
	9/23/2003	5.95		695.05	
	12/9/2003	5.99		695.01	
	4/15/2004	4.38		696.62	
	6/29/2004	5.22	700.90**	695.68	
	9/28/2004	6.17		694.73	
	12/13/2004	5.71		695.19	
	4/18/2005	6.02		694.98	
	6/27/2005	4.95	700.91	695.96	
	9/13/2005	6.00		694.91	
	12/13/2005	6.47		694.44	
3/9/2006	6.21		694.70		
6/13/2006	4.22		696.69		

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-10 (cont.)	9/12/2006	5.84		695.07	
	1/2/2007	4.16		696.75	
	3/29/2007	3.88		697.03	
	9/10/2007	3.20		697.71	
	4/30/2008	2.00		698.91	
	9/26/2008	6.46		694.45	
	4/17/2009	5.12		695.79	
	9/23/2009	5.75		695.16	
	3/29/2010	3.27		697.64	
	9/23/2010	4.66		696.25	
	3/17/2011	5.30		695.61	
	4/11/2011		696.51		
	9/22/2011	5.13		691.38	
	3/21/2012	2.70		693.81	
	9/12/2012	4.02		692.49	
	4/30/2013	1.25		695.26	
	9/24/2013	3.44		693.07	
	5/14/2014	0.89	700.91††	700.02	
9/18/2014	5.15		695.76		
4/15/2015	2.10		698.81		
MW-11	6/18/2002	4.00	701.99	697.99	688.4 - 698.4
	9/30/2002	10.79		691.20	
	12/23/2002	9.00		692.99	
	3/31/2003	5.42		696.57	
	4/14/2003	5.07		696.92	
	6/16/2003	4.69		697.30	
	9/23/2003	6.89		695.10	
	12/9/2003	4.69		697.30	
	4/20/2004	4.31		697.68	
	6/30/2004	4.88		697.11	
	9/28/2004	12.55	701.85***	689.30	
	12/13/2004	6.21		695.64	
	3/29/2005	4.22		697.77	
	6/27/2005	5.91	701.94	696.03	
	9/13/2005	10.33		691.61	
	12/14/2005	7.21		694.73	
	3/10/2006	10.02		691.92	
	6/13/2006	9.98		691.96	
9/12/2006	12.36		689.58		
1/2/2007	6.41		695.53		
3/29/2007	6.11		695.83		
9/10/2007	8.30		693.64		
MW-12	6/18/2002	4.40	700.17	695.77	686.0 - 696.0
	9/30/2002	5.34		694.83	
	12/23/2002	6.01		694.16	
	3/31/2003	3.45		696.72	

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-12 (cont.)	6/16/2003	5.08		695.09	
	9/23/2003	4.87		695.30	
	12/9/2003	5.07		695.10	
	4/14/2004	3.97		696.20	
	6/22/2004	4.30		695.87	
	9/28/2004	5.29	699.96***	694.67	
	12/13/2004	4.40		695.56	
	3/30/2005	4.70		695.47	
	6/27/2005	19.12	699.95	680.83	
	9/13/2005	4.90		695.05	
	12/13/2005	6.15		693.8	
	3/9/2006	5.02		694.93	
	6/13/2006	3.13		696.82	
	9/12/2006	5.05		694.90	
	1/2/2007	3.01		696.94	
	3/29/2007	2.96		696.99	
	9/10/2007	2.90		697.05	
	10/1/2007	4.02		695.93	
	4/30/2008	3.05		696.90	
	9/26/2008	5.38		694.57	
	4/17/2009	4.61		695.34	
	9/23/2009	4.89		695.06	
	3/29/2010	2.26		697.69	
	9/23/2010	3.83		696.12	
	3/17/2011	3.40		696.55	
	9/22/2011	4.55		695.40	
	3/21/2012	2.06		697.89	
	9/12/2012	3.65		696.30	
	4/30/2013	0.91		699.04	
	9/24/2013	3.04		696.91	
5/14/2014	0.30		699.65		
9/18/2014	4.23		695.72		
4/15/2015	1.40		698.55		
MW-12 ³	4/22/2015		700.06		
MW-13	6/18/2002	3.47	702.18	698.71	688.4 - 698.4
	9/30/2002	6.60		695.58	
	12/23/2002	8.05		694.13	
	3/31/2003	5.21		696.97	
	4/14/2003	4.25		697.93	
	6/16/2003	4.57		697.61	
	9/23/2003	4.86		697.32	
	12/9/2003	5.49		696.69	
	4/15/2004	5.23		696.95	
	6/23/2004	3.81		698.37	
	9/28/2004	8.37		693.81	
	12/13/2004	4.94		697.24	

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-13 (cont.)	3/30/2005	4.97		697.21	
	6/27/2005	6.16	702.23	696.07	
	9/15/2005	6.30		695.93	
	12/14/2005	7.25		694.98	
	3/10/2006	5.20		697.03	
	6/13/2006	5.24		696.99	
	9/12/2006	7.15		695.08	
	1/2/2007	4.15		698.08	
	3/29/2007	3.79		698.44	
	9/10/2007	5.00		697.23	
	9/26/2008	12.90		689.33	
	9/23/2009	6.65		695.58	
	9/23/2010	4.22		698.01	
	3/17/2011	3.79		698.44	
	9/22/2011	3.65		698.58	
	9/12/2012	6.61		695.62	
9/24/2012	5.69		696.54		
9/18/2014	5.16		697.07		
MW-14	6/18/2002	2.36	699.51	697.15	684.5 - 694.5
	9/30/2002	4.10		695.41	
	12/23/2002	4.81		694.70	
	3/31/2003	2.89		696.62	
	4/14/2003	2.04		697.47	
	6/16/2003	3.00		696.51	
	9/23/2003	3.17		696.34	
	12/9/2003	3.36		696.15	
	4/15/2004	2.54		696.97	
	6/23/2004	2.41		697.10	
	9/28/2004	4.87	699.41***	694.54	
	12/13/2004	2.92		696.49	
	3/30/2005	2.38		697.03	
	6/27/2005	3.30	699.48	696.18	
	9/15/2005	3.90		695.58	
	12/14/2005	4.72		694.76	
	3/10/2006	3.20		696.28	
	6/13/2006	2.51		696.97	
	9/12/2006	3.88		695.60	
	1/2/2007	3.42		696.06	
	3/29/2007	3.29		696.19	
	9/10/2007	2.85		696.63	
	9/26/2008	4.75		694.73	
	9/23/2009	3.72		695.76	
	9/23/2010	2.54		696.94	
	9/22/2011	6.38		693.10	
9/12/2012	3.51		695.97		
9/24/2013	2.87		696.61		

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-14 (cont.)	9/18/2014	2.71	699.41†	696.77	
MW-15	12/9/2003	2.98	701.06	698.08	687.6 - 697.6
	4/14/2004	2.79		698.27	
	6/22/2004	1.06		700.00	
	9/28/2004	4.37		696.69	
	12/13/2004	3.21		697.85	
	4/18/2005	4.55		696.51	
	6/27/2005	20.52	701.16	680.64	
	9/15/2005	3.05		698.11	
	12/14/2005	5.02		696.95	
	4/7/2006	4.21		696.95	
	6/13/2006	3.81		697.35	
	9/12/2006	3.36		697.80	
	1/2/2007	2.71		698.45	
	3/29/2007	2.43		698.73	
	9/11/2007	2.60		698.56	
4/30/2008	1.00		700.16		
MW-16	12/9/2003	2.95	699.22	696.27	685.8 - 695.8
	4/14/2004	2.54		696.68	
	6/23/2004	1.76		697.46	
	9/28/2004	4.48		694.74	
	12/13/2004	1.74		697.48	
	4/18/2005	3.17		696.05	
	6/27/2005	2.66	699.37	696.71	
	9/13/2005	3.60		695.77	
	12/14/2005	4.30		695.07	
	3/10/2006	3.01		696.36	
	6/13/2006	2.58		696.79	
	9/12/2006	3.99		695.38	
	1/2/2007	1.05		698.32	
	3/29/2007	1.01		698.36	
	9/10/2007	2.00		697.37	
4/30/2008	0.80		698.55		
MW-17	12/9/2003	2.97	699.17	696.20	685.7 - 695.7
	6/23/2004	2.01		697.16	
	9/28/2004	6.55		692.62	
	12/13/2004	2.53		696.64	
	3/30/2005	2.05		697.12	
	6/27/2005		699.35		
	9/15/2005	4.13		695.22	
	9/12/2006	5.58		693.77	
	9/10/2007	3.90		695.45	
4/30/2008	3.40		697.64		
MW-18	12/9/2003	4.51	701.40	696.89	687.9 - 697.9
	4/20/2004	4.30		697.10	
	6/23/2004	3.99		697.41	

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-18 (cont.)	9/28/2004	12.46		688.94	
	12/13/2004	6.36		695.04	
	3/29/2005	4.30		697.10	
	6/27/2005		701.47		
	9/13/2005	9.15		692.32	
	9/12/2006	11.70		689.77	
	9/10/2007	7.18		689.77	
	4/30/2008	3.85		689.77	
MW-19	9/26/2008	6.80	701.68	694.88	
	12/12/2008	7.52		694.16	
	4/17/2009	6.33	702.46	696.13	
	9/23/2009	5.17		697.29	
	3/29/2010	4.16		698.30	
	9/23/2010	3.09		699.37	
	3/17/2011	4.86		697.60	
	9/22/2011	4.45		698.01	
	3/21/2012	3.87		698.59	
	9/12/2012	4.95		697.51	
	9/24/2013	4.61		697.85	
	9/18/2014	3.90		698.56	
MW-19 ³	4/22/2015		701.86		
MW-20	4/17/2009		702.87		
	9/23/2010	5.48		697.39	
	3/17/2011	5.39		697.48	
	4/11/2011		695.87		
	9/22/2011	5.69		690.18	
	9/24/2013	8.71		687.16	
	9/18/2014	6.71	WELL DAMAGED	689.16	
MW-20 ⁴	4/22/2015		702.27		
MW-21	11/19/2013	4.74	702.64	697.90	
	12/19/2013	7.54		695.10	
	1/21/2014	8.62		694.02	
	3/11/2014	9.16		693.48	
	5/14/2014	1.80		700.84	
	7/28/2014	6.50		696.14	
	8/19/2014	5.43		697.21	
	9/18/2014	6.45		696.19	
	9/23/2014	5.97		696.67	
	10/21/2014	6.15		696.49	
	12/18/2014	6.43		696.21	
	4/15/2015	5.97		696.67	
MW-22	11/19/2013	4.28	702.63	698.35	
	12/19/2013	5.38		697.25	
	1/21/2014	7.36		695.27	
	3/11/2014	8.36		694.27	
	5/14/2014	1.71		700.92	

Table 1
Groundwater Elevations
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-22 (cont.)	7/31/2015	3.78		698.85	
	8/19/2014	3.75		698.88	
	9/18/2014	4.00		698.63	
	9/24/2014	4.00		698.63	
	10/21/2014	4.01		698.62	
	12/18/2014	4.22		698.41	
	4/15/2015	6.38		696.25	
Inj. Well	3/21/2012	3.68		692.19	
	9/12/2012	8.85		687.02	
	4/17/2009		703.20		
P-1A	12/9/2003	19.01	699.63	680.62	670.4 - 675.4
	4/28/2004	19.46		680.17	
	6/29/2004	8.66		690.97	
	9/28/2004	12.48		687.15	
	12/13/2004	10.60		689.03	
	3/29/2005	12.38		687.25	
	6/27/2005		699.98		
	9/13/2005	12.56		687.42	
	9/13/2006	10.40		689.58	
9/11/2007	6.10		693.88		
P-2A	12/9/2003	30.29	701.51	671.22	668.8 - 673.8
	4/15/2004	9.34		692.17	
	6/22/2004	13.13		688.38	
	9/28/2004	21.39		680.12	
	12/13/2004	19.63		681.88	
	3/30/2005	16.55		684.96	
	6/27/2005		701.54		
	9/13/2005	13.43		688.11	
	9/14/2006	13.60		687.94	
	9/11/2007	13.10		688.44	
	9/26/2008	14.40		687.14	
	9/24/2009	28.92		672.62	
	9/23/2010	27.60		673.94	
	3/17/2011	25.40		676.14	
	9/22/2011	10.65		690.89	
9/18/2014	9.70	701.04†	691.67		
P-2AR ⁵	4/22/2015		701.37		
P-2B	12/9/2003	32.36	701.66	669.30	656.7 - 661.7
	4/15/2004	28.55		673.11	
	6/22/2004	29.70		671.96	
	9/28/2004	31.41		670.25	
	12/13/2004	28.52		673.14	
	3/30/2005	28.22		673.44	
	6/27/2005		701.67		
	9/13/2005	28.50		673.17	
9/14/2006	28.81		672.86		

**Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
P-2B (cont.)	9/11/2007	28.95		672.72	
	10/1/2007	29.68		671.99	
	9/26/2008	29.74		671.93	
	12/15/2008	26.36		675.31	
	9/12/2012	27.17		674.50	
	9/24/2013	26.80		674.87	
	9/18/2014	27.00	701.19†	674.19	
P-4	6/18/2002	21.85	702.42	680.57	666.9 - 671.9
	9/30/2002	25.41		677.01	
	12/23/2002	23.14		679.28	
	3/31/2003	30.90		671.52	
	6/16/2003	25.35		677.07	
	9/23/2003	27.83		674.59	
P-4A*	12/9/2003	29.58		672.84	
	4/20/2004	25.89		676.53	
	6/23/2004	30.90		671.52	
	9/28/2004	28.16		674.26	
	12/13/2004	30.66		671.76	
	3/30/2005	28.26		674.16	
P-4A* (cont.)	6/27/2005		702.43		
	9/13/2005	24.80		677.63	
	9/13/2006	22.95		679.48	
	9/10/2007	23.10		679.33	
	9/26/2008	22.66		679.77	
	9/23/2009	21.74		680.69	
	9/23/2010	19.93		682.50	
	3/17/2011	18.10		684.33	
	9/22/2011	20.05		682.38	
	9/12/2012	20.50		681.93	
	9/24/2013	20.11		682.32	
	9/18/2014	20.96		681.47	
P-6A	12/9/2003	dry	701.54	dry	670.0 - 675.0
	4/28/2004	29.70		671.84	
	6/28/2004	25.60		675.94	
	9/28/2004	25.82		675.72	
	12/13/2004	27.48		674.06	
	3/30/2005	26.41		675.13	
	6/27/2005		701.57		
	9/13/2005	25.05		676.52	
	9/13/2006	20.02		681.55	
	9/10/2007	20.20		681.37	
	9/26/2008	26.68		674.89	
	9/23/2009	17.77		683.80	
	9/23/2010	7.20		694.37	
	3/17/2011	15.75		685.82	
	9/22/2011	12.35		689.22	

**Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
P-6A (cont.)	9/12/2012	14.65		686.92	
	9/24/2013	14.70		686.87	
	9/18/2014	25.18		676.39	
P-6B	12/9/2003	35.39	701.48	666.09	656.8 - 661.8
	4/28/2004	31.94		669.54	
	6/28/2004	32.08		669.40	
	9/28/2004	33.99		667.49	
	12/13/2004	32.60		668.88	
	3/30/2005	31.82	701.52	669.66	
	9/13/2005	32.95		668.57	
	9/13/2006	32.85		668.67	
	9/10/2007	32.85		668.67	
	10/1/2007	34.22		667.30	
	9/26/2008	33.55		667.97	
	9/23/2009	32.50		669.02	
	9/23/2010	30.55		670.97	
	3/17/2011	4.40		697.12	
	9/22/2011	30.60		670.92	
9/12/2012	30.95		670.57		
9/24/2013	30.53		670.99		
9/18/2014	29.91	701.36	671.61		
P-6C	11/19/2013	30.03	701.43	671.40	
	1/21/2014	NM		NM	
	3/10/2014	49.37		652.06	
	7/28/2014	47.54		653.89	
	9/23/2014	48.07		653.36	
P-7A	12/9/2003	31.09	702.62	671.53	670.0 - 675.0
	4/28/2004	17.57		685.05	
	6/28/2004	13.70		688.92	
	9/28/2004	14.27		688.35	
	12/13/2004	13.44		689.18	
	4/18/2005	18.55		684.07	
	6/27/2005	13.12	702.67	689.55	
	9/13/2005	13.52		689.15	
	12/13/2005	11.71		690.96	
	3/9/2006	11.41		691.26	
	6/13/2006	11.16		691.51	
	9/13/2006	13.07		689.60	
	1/2/2007	19.70		682.97	
	3/29/2007	19.51		683.16	
	9/11/2007	12.05		690.62	
	4/30/2008	7.90		694.77	
	9/26/2008	12.45		690.22	
4/17/2009	27.82		674.85		
9/23/2009	11.37		691.30		
3/29/2010	9.37		693.30		

Table 1
Groundwater Elevations
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Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)	
P-7A (cont.)	9/23/2010	7.31		695.36		
	3/17/2011	9.80		692.87		
	9/22/2011	8.40		694.27		
	3/21/2012	8.40		694.27		
	9/12/2012	6.56		696.11		
	4/30/2013	28.54		674.13		
	9/24/2013	5.65		697.02		
	5/14/2014	2.80		699.87		
	9/18/2014	2.40		700.27		
	4/15/2015	3.21		699.46		
P-7A ³	4/22/2015		702.37			
P-7	6/18/2002	29.81	702.95	673.14	657.4 - 662.4	
	9/30/2002	30.97		671.98		
	12/23/2002	30.64		672.31		
	3/31/2003	30.83		672.12		
	6/16/2003	31.42		671.53		
	9/23/2003	31.74		671.21		
P-7B	12/9/2003	31.98		670.97		
	4/28/2004	31.35		671.60		
	6/28/2004	31.19		671.76		
	9/28/2004	31.37	702.68***	671.31		
	12/13/2004	31.03		671.65		
	4/18/2005	39.00		663.68		
	6/27/2005	31.35	702.76	671.41		
	9/13/2005	31.60		671.16		
	12/13/2005	30.95		671.81		
	P-7B ⁺	3/9/2006	30.40		672.36	
		6/13/2006	30.91		671.85	
		9/13/2006	31.47		671.29	
		1/2/2007	30.85		671.91	
		3/29/2007	30.55		672.21	
		9/11/2007	31.45		671.31	
		4/30/2008	30.35		672.41	
		9/26/2008	31.42		671.34	
		4/17/2009	32.05		670.71	
9/23/2009		31.30		671.46		
3/29/2010		30.34		672.42		
9/23/2010		29.65		673.11		
3/17/2011		29.17		673.59		
9/22/2011		29.40		673.36		
3/21/2012		29.11		673.65		
9/12/2012	29.35		673.41			
4/30/2013	28.89		673.87			
5/14/2014	28.60	702.27†	673.67			
9/18/2014	28.80		673.47			
4/15/2015	29.11		673.16			

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
P-7C	12/9/2003	50.91	702.64	651.73	642.4 - 647.4
	4/28/2004	42.24		660.40	
	6/28/2004	42.11		660.53	
	9/28/2004	42.08		660.56	
	12/13/2004	42.21		660.43	
	3/30/2005	dry		dry	
	6/27/2005		702.66		
	9/13/2005	42.61		660.05	
	9/13/2006	42.74		659.92	
	9/11/2007	42.75		659.91	
	9/26/2008	42.54		660.12	
	9/23/2009	42.57		660.09	
	9/23/2010	41.38		661.28	
	3/17/2011	40.51		662.15	
	9/22/2011	40.35		662.31	
	9/12/2012	30.90		671.76	
9/24/2013	40.70		661.96		
9/18/2014	18.60		684.06		
P-8	6/18/2002	2.79	701.84	699.05	670.1 - 675.1
	9/30/2002	8.47		693.37	
	12/23/2002	9.03		692.81	
	3/31/2003	9.56		692.28	
	4/14/2003	9.42		692.42	
	6/16/2003	21.72		680.12	
	9/23/2003	16.50		685.34	
P-8A*	12/9/2003	20.68		681.16	
	4/20/2004	11.75		690.09	
	6/30/2004	28.29		673.55	
	9/28/2004	19.30		682.54	
	12/13/2004	23.13		678.71	
	3/29/2005	13.02		688.82	
	6/27/2005		701.85		
	9/12/2006	12.85		689.00	
	9/10/2007	12.65		689.20	
	9/26/2008	12.00		689.85	
	9/23/2009	12.02		689.83	
	9/23/2010	8.88		692.97	
	3/17/2011	20.97		680.88	
	9/22/2011	10.65		691.20	
9/12/2012	11.02		690.83		
9/24/2013	11.06		690.79		
9/18/2014	4.08		697.77		
P-9	6/18/2002	24.42	701.12	676.70	671.4 - 676.4
	9/30/2002	24.44		676.68	
	12/23/2002	24.22		676.90	
	3/31/2003	24.94		676.18	

**Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047**

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
P-9 (cont.)	4/14/2003	24.97		676.15	
	6/16/2003	27.19		673.93	
	9/23/2003	26.94		674.18	
P-9A ⁺	12/9/2003	27.01		674.11	
	4/28/2004	26.08		675.04	
	6/29/2004	26.62		674.50	
	9/28/2004	26.58		674.54	
	12/13/2004	27.61		673.51	
	3/29/2005	25.53		675.59	
	6/27/2005		701.12		
	9/13/2005	26.61		674.51	
	9/12/2006	24.55		676.57	
	9/10/2007	24.30		676.82	
	9/26/2008	24.10		677.02	
	9/23/2009	24.30		676.82	
	9/23/2010	22.45		678.67	
	3/17/2011	20.97		680.15	
	9/22/2011	23.11		678.01	
	9/12/2012	23.21		677.91	
9/24/2013	23.30		677.82		
9/18/2014	22.99		678.13		
P-12A	6/18/2002	7.39	700.10	692.71	669.7 - 674.7
	9/30/2002	9.68		690.42	
	12/23/2002	9.40		690.70	
	3/31/2003	17.08		683.02	
	6/16/2003	10.19		689.91	
	9/23/2003	9.47		690.63	
P-12A	12/9/2003	8.85		691.25	
	4/14/2004	8.32		691.78	
	6/22/2004	7.45		692.65	
	9/28/2004	8.12	699.88***	691.76	
	12/13/2004	7.85		692.03	
	3/30/2005	9.18		690.70	
	6/27/2005		699.89		
	9/13/2005	7.60		692.29	
	9/12/2006	6.40		693.49	
	9/10/2007	9.10		690.79	
	9/26/2008	7.52		692.37	
	9/23/2009	5.17		694.72	
	9/23/2010	3.17		696.72	
	3/17/2011	2.81		697.08	
	9/22/2011	4.70		695.19	
9/12/2012	3.87		696.02		
9/24/2013	3.31		696.58		
9/18/2014	4.25		695.64		
P-12A ³	4/22/2015		699.90		

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
P-15A	12/9/2003	22.71	701.10	678.39	670.1 - 675.1
	4/14/2004	2.28		698.82	
	6/22/2004	21.15		679.95	
	9/28/2004	22.35		678.75	
	12/13/2004	19.16		681.94	
	4/18/2005	16.17		684.93	
	6/27/2005		701.10		
	9/15/2005	14.55		686.55	
	9/12/2006	14.61		686.49	
	9/11/2007	3.12		697.98	
	4/30/2008	7.15		693.66	
P-15B	12/9/2003	31.64	700.79	669.15	656.8 - 661.8
	4/14/2004	24.41		676.38	
	6/22/2004	26.21		674.58	
	9/28/2004	26.11		674.68	
	12/13/2004	25.75		675.04	
	4/18/2005	26.37		674.42	
	6/27/2005		700.81		
	9/15/2005	26.37		674.44	
	9/12/2006	26.55		674.26	
	9/11/2007	25.80		675.01	
	4/30/2008	25.05		674.37	
P-16A	12/9/2003	17.57	699.40	681.83	670.0 - 675.0
	4/14/2004	19.45		679.95	
	6/23/2004	18.51		680.89	
	9/28/2004	20.99		678.41	
	12/13/2004	19.16		680.24	
	4/18/2005	14.78		684.62	
	6/27/2005		699.42		
	9/15/2005	17.87		681.55	
	9/12/2006	10.88		688.54	
	9/10/2007	11.10		688.32	
	4/30/2008	9.55		691.92	
MW-T1	12/9/2003	10.52	702.01	691.49	690.5 - 698.5
	4/20/2004	7.34		694.67	
	6/22/2004	8.55		693.46	
	9/28/2004	Dry		-	
	12/13/2004	9.73		692.28	
	4/18/2005	dry		dry	
	6/27/2005	11.02	701.04	690.02	
	9/13/2005	11.12		689.92	
	12/13/2004	10.75		690.29	
	3/9/2006	10.81		690.23	
	6/13/2006	9.91		691.13	
	9/13/2006	10.66		690.38	
	1/2/2007	Dry			

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
MW-T1 (cont.)	3/29/2007	Dry			
	9/11/2007	6.60		694.44	
	4/30/2008	6.80		694.24	
	9/26/2008	10.90		690.14	
	9/23/2009	6.88		694.16	
	3/29/2010	3.87		697.17	
	9/23/2010	4.96		696.08	
	3/17/2011	2.75		698.29	
	9/22/2011	6.51		694.53	
	3/21/2012	3.10		697.94	
	9/12/2012	6.43		694.61	
	4/30/2013	2.17		698.87	
	9/24/2013	5.64		695.40	
	5/14/2014	0.95		700.09	
	9/18/2014	7.45		693.59	
4/15/2015	6.67		694.37		
MW-T2	12/9/2003	11.13	702.15	691.02	690.6 - 698.6
	4/20/2004	7.30		694.85	
	6/22/2004	7.51		694.64	
	9/28/2004	11.30		690.85	
	12/13/2004	8.22		693.93	
	4/18/2005	7.51		694.64	
	6/27/2005	11.05	702.16	691.11	
	9/13/2005	11.10		691.06	
	12/13/2005	7.71		694.45	
	3/9/2006	0.00		702.16	
	6/13/2006	10.72		691.44	
	9/13/2006	Dry		Dry	
	1/2/2007	Dry		Dry	
	3/29/2007	Dry		Dry	
	9/11/2007	7.72		694.44	
	4/30/2008	7.00		695.16	
	9/26/2008	11.32		690.84	
	9/23/2009	7.13		695.03	
	3/29/2010	4.56		697.60	
	9/23/2010	6.38		695.78	
	3/17/2011	5.10		697.06	
	9/22/2011	6.36		695.80	
	3/21/2012	3.42		698.74	
	9/12/2012	6.71		695.45	
	4/30/2013	2.66		699.50	
9/24/2013	6.11		696.05		
5/14/2014	1.92		700.24		
9/18/2014	7.65		694.51		
4/15/2015	6.70		695.46		

Table 1
Groundwater Elevations
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Measured Location	Date	Depth to Groundwater (ft)	Reference Elevation (ft)	Groundwater Elevation (ft)	Screened Interval (ft)
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Notes:

Depth to groundwater is measured from the top of the riser pipe.
Screen elevations estimated based upon depth to bottom of well and an assumed 10-foot screen length for observation wells and 5-foot screen length for piezometers.

NM = Not Measured

¹ - Depth to groundwater in Ex Sump A and Ex Sump B is the approximate depth to groundwater that trips the high float to initiate groundwater extraction.

- PVC elevation for monitoring wells MW-2 and MW-3 re-surveyed 12/16/03.

** - PVC casing was cut down 0.10 feet following the April 2004 water level measurement.

*** - PVC casing was cut down following the June 2004 sampling event.

† - PVC casing elevation resurveyed after well repair during summer 2013

†† - MW-10 reference elevation reverted back to previous elevation based on Sump B rim elevation

² - MW-5 PVC casing extended above grade and converted to protop well protection on 4/22/15

³ - PVC casing cut down and resurveyed on 4/22/15; MW-12 and P-12A each received new flushmount protective cover set in a concrete pad

⁴ - MW-20 damaged PVC casing cut down and re-extended on 4/22/15

⁵ - P-2A abandoned and replacement well P-2AR constructed on 4/22/15

Created by: Terracon

Edited by: Chris W. Ingram, Terracon 4/17/15

Checked by: Scott A. Hodgson, Terracon 5/7/15

N:\Projects\2012\58127047\Working Files\Tables\[Wis_Chrome_Tables_120621.xls]Table 1

Table 2
Groundwater Analytical Results
Wisconsin Chrome, Kaukauna, Wisconsin / Project #5127047

MR. ANAL. NO. / DATE	5		15		30		60		120		180		240		300		360		420		480		540		600		660		720		780		840		900		960		1020		1080		1140		1200		1260		1320		1380		1440		1500		1560		1620		1680		1740		1800		1860		1920		1980		2040		2100		2160		2220		2280		2340		2400		2460		2520		2580		2640		2700		2760		2820		2880		2940		3000		3060		3120		3180		3240		3300		3360		3420		3480		3540		3600		3660		3720		3780		3840		3900		3960		4020		4080		4140		4200		4260		4320		4380		4440		4500		4560		4620		4680		4740		4800		4860		4920		4980		5040		5100		5160		5220		5280		5340		5400		5460		5520		5580		5640		5700		5760		5820		5880		5940		6000		6060		6120		6180		6240		6300		6360		6420		6480		6540		6600		6660		6720		6780		6840		6900		6960		7020		7080		7140		7200		7260		7320		7380		7440		7500		7560		7620		7680		7740		7800		7860		7920		7980		8040		8100		8160		8220		8280		8340		8400		8460		8520		8580		8640		8700		8760		8820		8880		8940		9000		9060		9120		9180		9240		9300		9360		9420		9480		9540		9600		9660		9720		9780		9840		9900		9960		10020		10080		10140		10200		10260		10320		10380		10440		10500		10560		10620		10680		10740		10800		10860		10920		10980		11040		11100		11160		11220		11280		11340		11400		11460		11520		11580		11640		11700		11760		11820		11880		11940		12000		12060		12120		12180		12240		12300		12360		12420		12480		12540		12600		12660		12720		12780		12840		12900		12960		13020		13080		13140		13200		13260		13320		13380		13440		13500		13560		13620		13680		13740		13800		13860		13920		13980		14040		14100		14160		14220		14280		14340		14400		14460		14520		14580		14640		14700		14760		14820		14880		14940		15000		15060		15120		15180		15240		15300		15360		15420		15480		15540		15600		15660		15720		15780		15840		15900		15960		16020		16080		16140		16200		16260		16320		16380		16440		16500		16560		16620		16680		16740		16800		16860		16920		16980		17040		17100		17160		17220		17280		17340		17400		17460		17520		17580		17640		17700		17760		17820		17880		17940		18000		18060		18120		18180		18240		18300		18360		18420		18480		18540		18600		18660		18720		18780		18840		18900		18960		19020		19080		19140		19200		19260		19320		19380		19440		19500		19560		19620		19680		19740		19800		19860		19920		19980		20040		20100		20160		20220		20280		20340		20400		20460		20520		20580		20640		20700		20760		20820		20880		20940		21000		21060		21120		21180		21240		21300		21360		21420		21480		21540		21600		21660		21720		21780		21840		21900		21960		22020		22080		22140		22200		22260		22320		22380		22440		22500		22560		22620		22680		22740		22800		22860		22920		22980		23040		23100		23160		23220		23280		23340		23400		23460		23520		23580		23640		23700		23760		23820		23880		23940		24000		24060		24120		24180		24240		24300		24360		24420		24480		24540		24600		24660		24720		24780		24840		24900		24960		25020		25080		25140		25200		25260		25320		25380		25440		25500		25560		25620		25680		25740		25800		25860		25920		25980		26040		26100		26160		26220		26280		26340		26400		26460		26520		26580		26640		26700		26760		26820		26880		26940		27000		27060		27120		27180		27240		27300		27360		27420		27480		27540		27600		27660		27720		27780		27840		27900		27960		28020		28080		28140		28200		28260		28320		28380		28440		28500		28560		28620		28680		28740		28800		28860		28920		28980		29040		29100		29160		29220		29280		29340		29400		29460		29520		29580		29640		29700		29760		29820		29880		29940		30000		30060		30120		30180		30240		30300		30360		30420		30480		30540		30600		30660		30720		30780		30840		30900		30960		31020		31080		31140		31200		31260		31320		31380		31440		31500		31560		31620		31680		31740		31800		31860		31920		31980		32040		32100		32160		32220		32280		32340		32400		32460		32520		32580		32640		32700		32760		32820		32880		32940		33000		33060		33120		33180		33240		33300		33360		33420		33480		33540		33600		33660		33720		33780		33840		33900		33960		34020		34080		34140		34200		34260		34320		34380		34440		34500		34560		34620		34680		34740		34800		34860		34920		34980		35040		35100		35160		35220		35280		35340		35400		35460		35520		35580		35640		35700		35760		35820		35880		35940		36000		36060		36120		36180		36240		36300		36360		36420		36480		36540		36600		36660		36720		36780		36840		36900		36960		37020		37080		37140		37200		37260		37320		37380		37440		37500		37560		37620		37680		37740		37800		37860		37920		37980		38040		38100		38160		38220		38280		38340		38400		38460		38520		38580		38640		38700		38760		38820		38880		38940		39000		39060		39120		39180		39240		39300		39360		39420		39480		39540		39600		39660		39720		39780		39840		39900		39960		40020		40080		40140		40200		40260		40320		40380		40440		40500		40560		40620		40680		40740		40800		40860		40920		40980		41040		41100		41160		41220		41280		41340		41400		41460		41520		41580		41640		41700		41760		41820		41880		41940		42000		42060		42120		42180		42240		42300		42360		42420		42480		42540		42600		42660		42720		42780		42840		42900		42960		43020		43080		43140		43200		43260		43320		43380		43440		43500		43560		43620		43680		43740		43800		43860		43920		43980		44040		44100		44160		44220		44280		44340		44400		44460		44520		44580		44640		44700		44760		44820		44880		44940		45000		45060		45120		45180		45240		45300		45360		45420		45480		45540		45600		45660		45720		45780		45840		45900		45960		46020		46080		46140		46200		46260		46320		46380		46440		46500		46560		46620		46680		46740		46800		46860		46920		46980		47040		47100		47160		47220		47280		47340		47400		47460		47520		47580		47640		47700		47760		47820		47880		47940		48000		48060		48120		48180		48240		48300		48360		48420		48480		48540		48600		48660		48720		48780		48840		48900		48960		49020		49080		49140		49200		49260		49320		49380		49440		49500		49560		49620		49680		49740		49800		49860		49920		49980		50040		50100		50160		50220		50280		50340		50400		50460		50520		50580		50640		50700		50760		50820		50880		50940		51000		51060		51120		51180		51240		51300		51360		51420		51480		51540		51600		51660		51720		51780		51840		51900		51960		52020		52080		52140		52200		52260		52320		52380		52440		52500		52560		52620		52680		52740		52800		52860		52920		52980		53040		53100		53160			
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Table 3
Flow Meter Summary (Gallons)
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
8/14/01	4,610		4,610	13,161	-8,551	
8/30/01	35,333		35,333	43,630	-8,297	1%
1/23/02	130,130	43,590	173,720	171,780	1,940	8%
2/28/02	134,195	48,330	182,525	179,670	2,855	12%
3/7/02	146,570	48,570	195,140	192,200	2,940	1%
3/13/02	146,570	58,450	205,020	201,990	3,030	1%
3/27/02	158,898	62,854	221,752	218,641	3,111	0%
4/2/02	159,182.8	63,114.4	222,297	218,998.4	3,299	53%
4/9/02	160,636.0	63,454.5	224,091	220,734.0	3,357	3%
5/1/02	162,207.5	64,880.5	227,088.0	223,075.5	4,013	28%
5/3/02	162,412.5	64,880.5	227,293.0	223,250.5	4,043	17%
5/9/02	162,410.0	64,880	227,290.0	223,390.0	3,900	-102%
5/13/02	173,320	64,880	238,200	243,310	-5,110	-45%
5/23/02	173,320	65,230	238,550	243,740	-5,190	-19%
5/28/02	173,320	75,050	248,370	253,440	-5,070	1%
6/5/02	173,970	77,570	251,540	256,640	-5,100	-1%
6/6/02	180,320	81,480	261,800	266,780	-4,980	1%
6/11/02	196,850	93,220	290,070	294,680	-4,610	1%
6/18/02	219,680	113,140	332,820	336,690	-3,870	2%
6/19/02	222,290	115,510	337,800	341,300	-3,500	8%
6/24/02	235,760	130,860	366,620	369,810	-3,190	1%
6/25/02	238,340	133,680	372,020	375,180	-3,160	1%
7/2/02	250,810	144,970	395,780	398,530	-2,750	2%
7/4/02	259,570	148,680	408,250	410,880	-2,630	1%
7/31/02	259,890	149,180	409,070	411,590	-2,520	15%
8/1/02	264,840			420,480		
8/7/02	277,200	159,970	437,170	439,220	-2,050	-11%
8/14/02	284,640	164,650	449,290	451,000	-1,710	3%
8/21/02	291,700	169,080	460,780	462,280	-1,500	2%
8/28/02	299,390	174,920	474,310	475,410	-1,100	3%
9/4/02	305,800	180,400	486,200	487,070	-870	2%
9/11/02	312,680	185,180	497,860	498,430	-570	3%
9/23/02	312,720	185,270	497,990	498,550	-560	8%
9/26/02	319,550	190,430	509,980	510,160	-180	3%
9/30/02	323,240	192,830	516,070	516,040	30	4%
10/3/02	325,260	194,420	519,680	519,570	110	2%
10/11/02	335,050	203,690	538,740	538,020	720	3%
10/13/02	337,260	205,340	542,600	541,730	870	4%
10/14/02	337,660	205,830	543,490	542,570	920	6%
10/28/02	337,790	205,960	543,750	542,830	920	0%
11/4/02	351,490	215,900	567,390	565,600	1,790	4%
11/5/02	352,710	216,250	568,960	567,010	1,950	11%
11/7/02	354,290	217,990	572,280	570,280	2,000	2%
11/11/02	357,330	220,540	577,870	575,580	2,290	5%
11/19/02	362,430	224,680	587,110	584,500	2,610	4%
11/26/02	366,060	227,970	594,030	591,190	2,840	3%
11/27/02	366,610	228,450	595,060	592,150	2,910	7%
12/6/02	370,380	231,710	602,090	598,970	3,120	3%

Table 3
Flow Meter Summary (Gallons)
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
12/10/02	370,430	232,890	603,320	600,110	3,210	8%
12/11/02	370,430	233,110	603,540	600,360	3,180	-12%
12/12/02	370,460	233,160	603,620	600,410	3,210	60%
12/17/02	373,230	234,630	607,860	604,720	3,140	-2%
12/18/02	373,590	235,000	608,590	605,490	3,100	-5%
12/23/02	375,640	237,270	612,910	609,660	3,250	4%
12/30/02	377,780	239,490	617,270	613,720	3,550	7%
1/7/03	379,730	241,540	621,270	617,530	3,740	5%
1/14/03	381,140	243,050	624,190	620,420	3,770	1%
2/14/03	385,390	246,140	631,530	627,330	4,200	6%
2/28/03	386,890	247,040	633,930	629,500	4,430	11%
3/11/03	387,910	247,040	634,950	630,490	4,460	3%
3/19/03	389,450	247,040	636,490	631,890	4,600	10%
3/26/03	391,580	247,040	638,620	633,920	4,700	5%
3/27/03	391,990	247,040	639,030	634,250	4,780	24%
3/28/03	395,230	247,040	642,270	637,400	4,870	3%
3/31/03	400,160	247,040	647,200	642,000	5,200	7%
4/14/03	414,260	247,040	661,300	654,960	6,340	9%
4/28/03	437,770	247,040	684,810	676,470	8,340	9%
4/29/03	440,560	247,190	687,750	680,000	7,750	-17%
5/12/03	458,420	281,570	739,990	729,930	10,060	5%
5/15/03	468,400	286,600	755,000	744,170	10,830	5%
5/20/03	477,820	292,530	770,350	759,120	11,230	3%
5/27/03	482,070	295,740	777,810	766,280	11,530	4%
6/5/03	492,930	305,390	798,320	786,180	12,140	3%
6/13/03	502,120	315,590	817,710	804,980	12,730	3%
6/16/03	505,860	321,430	827,290	817,820	9,470	-25%
6/17/03	506,120	321,860	827,980	818,740	9,240	-25%
6/20/03	509,860	323,890	833,750	824,280	9,470	4%
7/7/03	527,890	336,880	864,770	851,690	13,080	13%
7/8/03	529,150	337,060	866,210	852,980	13,230	12%
7/24/03	529,150	337,060	866,210	852,980	13,230	System off 7/8-7/24
8/1/03	541,620	346,390	888,010	874,190	13,820	3%
8/14/03	563,400	368,890	932,290	917,520	14,770	2%
8/27/03	580,250	377,050	957,300	942,030	15,270	2%
9/5/03	586,640	380,680	967,320	951,670	15,650	4%
9/22/03	608,640	396,440	1,005,080	988,590	16,490	2%
9/23/03	609,640	399,200	1,008,840	992,220	16,620	4%
9/24/03	611,070	399,430	1,010,500	993,930	16,570	-3%
9/29/03	615,660	402,890	1,018,550	1,001,650	16,900	4%
10/4/03	618,170	405,850	1,024,020	1,006,990	17,030	2%
10/7/03	622,700	406,690	1,029,390	1,012,110	17,280	5%
10/22/03	635,130	414,440	1,049,570	1,030,750	18,820	8%
10/27/03	636,070	414,690	1,050,760	1,031,750	19,010	19%
10/28/03	637,970	415,660	1,053,630	1,034,630	19,000	0%
11/12/03	652,630	426,990	1,079,620	1,059,730	19,890	4%
11/20/03	660,070	433,310	1,093,380	1,072,960	20,420	4%
11/28/03	678,310	447,120	1,125,430	1,103,900	21,530	4%

Table 3
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Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
12/8/03	692,890	454,340	1,147,230	1,125,230	22,000	2%
12/15/03	698,980	461,070	1,160,050	1,137,360	22,690	6%
12/18/03	703,790	463,490	1,167,280	1,144,490	22,790	1%
12/23/03	704,140	464,080	1,168,220	1,145,310	22,910	15%
12/31/03	717,920	470,410	1,188,330	1,164,930	23,400	2%
1/23/04	738,720	480,360	1,219,080	1,194,550	24,530	2%
2/6/04	744,850	482,320	1,227,170	1,202,090	25,080	2%
2/20/04	750,120	484,100	1,234,220	1,208,850	25,370	2%
3/5/04	763,290	494,110	1,257,400	1,230,270	27,130	2%
3/19/04	769,110	519,630	1,288,740	1,286,180	2,560	0%
3/31/04	817,040	539,940	1,356,980	1,325,710	31,270	2%
4/12/04	832,690	552,920	1,385,610	1,352,810	32,800	2%
4/28/04	845,630	562,470	1,408,100	1,374,450	33,650	2%
5/11/04	858,640	574,760	1,433,400	1,398,160	35,240	3%
5/25/04	890,820	606,460	1,497,280	1,457,910	39,370	3%
6/8/04	940,300	635,020	1,575,320	1,530,280	45,040	3%
6/22/04	973,690	659,360	1,633,050	1,583,610	49,440	3%
6/30/04	988,510	668,230	1,656,740	1,605,360	51,380	3%
7/14/04	1,008,780	682,520	1,691,300	1,636,870	54,430	3%
7/28/04	1,023,120	690,920	1,714,040	1,657,680	56,360	3%
8/10/04	1,034,140	697,050	1,731,190	1,673,340	57,850	3%
8/24/04	1,043,950	701,620	1,745,570	1,686,360	59,210	4%
9/7/04	1,052,420	707,650	1,760,070	1,699,440	60,630	4%
10/1/04	1,061,540	710,520	1,772,060	1,710,440	61,620	4%
10/13/04	1,064,900	712,540	1,777,440	1,715,330	62,110	4%
10/27/04	1,069,510	715,700	1,785,210	1,772,510	12,700	1%
11/10/04	1,079,260	725,730	1,804,990	1,740,910	64,080	4%
11/24/04	1,086,000	732,700	1,818,700	1,762,600	56,100	3%
11/30/04	1,090,500	737,710	1,828,210	1,762,600	65,610	4%
12/1/04	0	0	0	0	0	0%
12/15/04	16,230	18,040	34,270	34,160	110	0%
12/31/04	26,420	24,670	51,090	51,100	-10	0%
Monthly Data Only Available to Foth Infrastructure & Environment for January, 2005						
1/15/05	17,550	11,180	28,730	28,630	-100	0%
2/21/05	51,270	46,220	97,490	97,240	250	0%
2/23/05	51,890	47,270	99,160	98,880	280	0%
2/25/05	52,380	47,370	99,750	99,410	340	0%
3/1/05	53,510	48,780	102,290	102,000	290	0%
3/4/05	54,250	50,160	104,410	104,090	320	0%
3/11/05	56,020	53,580	109,600	109,230	370	0%
3/16/05	57,280	55,900	113,180	112,760	420	0%
3/19/05	57,980	56,610	114,590	114,160	430	0%
4/1/05	70,020	66,380	136,400	135,680	720	1%
4/5/05	71,220	76,070	147,290	146,370	920	1%
4/11/05	76,180	82,550	158,730	157,720	1,010	1%
4/15/05	78,830	85,980	164,810	163,690	1,120	1%
4/19/05	81,380	89,050	170,430	169,220	1,210	1%
4/22/05	84,310	92,720	177,030	175,630	1,400	1%

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Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
4/25/05	87,100	95,470	182,570	181,160	1,410	1%
4/28/05	89,910	99,550	189,460	187,860	1,600	1%
5/2/05	93,130	102,530	195,660	193,990	1,670	1%
5/5/05	95,230	104,920	200,150	198,380	1,770	1%
5/11/05	98,640	108,560	207,200	205,190	2,010	1%
5/18/05	103,860	112,350	216,210	214,030	2,180	1%
5/25/05	110,620	115,700	226,320	224,040	2,280	1%
6/3/05	117,390	118,790	236,180	233,720	2,460	1%
6/10/05	122,110	121,180	243,290	240,670	2,620	1%
6/13/05	124,280	122,280	246,560	243,810	2,750	1%
6/24/05	135,600	128,630	264,230	261,100	3,130	1%
7/7/05	144,940	134,540	279,480	275,870	3,610	1%
7/15/05	150,250	138,270	288,520	284,680	3,840	1%
7/22/05	153,470	140,830	294,300	290,350	3,950	1%
7/28/05	158,460	144,010	302,470	298,310	4,160	1%
8/4/05	163,090	147,480	310,570	306,160	4,410	1%
8/11/05	166,830	150,400	317,230	312,620	4,610	1%
8/18/05	171,960	154,460	326,420	321,520	4,900	2%
8/25/05	176,570	158,350	334,920	329,760	5,160	2%
9/1/05	181,790	162,610	344,400	338,880	5,520	2%
9/8/05	189,270	168,250	357,520	351,740	5,780	2%
9/15/05	194,280	172,020	366,300	360,300	6,000	2%
9/29/05	204,400	181,000	385,400	379,110	6,290	2%
10/6/05	210,780	186,720	397,500	390,890	6,610	2%
10/14/05	215,210	190,360	405,570	398,880	6,690	2%
10/20/05	218,230	192,300	410,530	403,690	6,840	2%
11/4/05	226,020	199,350	425,370	418,290	7,080	2%
11/20/05	237,780	212,050	449,830	442,230	7,600	2%
12/1/05	240,310	220,200	460,510	452,800	7,710	2%
12/16/05	251,200	228,890	480,090	472,000	8,090	2%
12/31/05	261,880	237,180	499,060	490,790	8,270	2%
1/11/06	275,540	249,720	525,260	516,580	8,680	2%
1/25/06	281,860	254,720	536,580	527,750	8,830	2%
2/8/06	300,770	272,580	573,350	563,960	9,390	2%
2/23/06	314,750	282,610	597,360	587,570	9,790	2%
3/10/06	323,410	289,140	612,550	602,390	10,160	2%
3/23/06	343,060	304,190	647,250	636,385	10,865	2%
4/6/06	362,710	319,240	681,950	670,380	11,570	2%
4/21/06	380,620	331,760	712,380	700,020	12,360	2%
5/5/06	392,700	338,790	731,490	718,680	12,810	2%
5/18/06	414,320	349,760	764,080	750,390	13,690	2%
6/2/06	441,950	362,550	804,500	790,040	14,460	2%
6/14/06	464,030	370,030	834,060	818,300	15,760	2%
6/29/06	479,290	374,890	854,180	837,860	16,320	2%
7/14/06	488,780	378,580	867,360	850,590	16,770	2%
7/28/06	498,130	382,970	881,100	863,890	17,210	2%
8/10/06	510,250	390,030	900,280	882,480	17,800	2%
8/28/06	518,980	395,380	914,360	896,110	18,250	2%

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9/8/06	522,510	396,880	919,390	900,960	18,430	2%
9/22/06	528,640	400,740	929,380	910,600	18,780	2%
10/6/06	539,540	408,490	948,030	928,650	19,380	2%
10/19/06	547,290	413,920	961,210	941,360	19,850	2%
11/2/06	556,050	420,410	976,460	955,970	20,490	2%
12/11/06	576,130	437,450	1,013,580	991,690	21,890	2%
12/28/06	596,330	456,550	1,052,880	1,029,450	23,430	2%
1/16/07	599,090	461,450	1,060,540	1,036,750	23,790	2%
1/26/07	599,090	467,890	1,066,980	1,042,920	24,060	2%
2/9/07	599,670	471,870	1,071,540	1,047,240	24,300	2%
2/22/07	599,990	472,640	1,072,630	1,048,280	24,350	2%
3/2/07	603,450	472,640	1,076,090	1,051,660	24,430	2%
3/15/07	607,360	473,990	1,081,350	1,056,660	24,690	2%
3/30/07	631,370	496,180	1,127,550	1,102,190	25,360	2%
4/13/07	655,340	518,890	1,174,230	1,148,160	26,070	2%
4/27/07	661,850	524,010	1,185,860	1,159,620	26,240	2%
5/10/07	676,420	538,710	1,215,130	1,188,360	26,770	2%
5/24/07	688,150	550,410	1,238,560	1,211,580	26,980	2%
6/8/07	703,840	561,680	1,265,520	1,238,110	27,410	2%
6/22/07	717,360	574,860	1,292,220	1,264,440	27,780	2%
7/5/07	730,880	588,040	1,318,920	1,290,780	28,140	2%
7/19/07	740,550	594,970	1,335,520	1,307,120	28,400	2%
8/1/07	748,250	601,150	1,349,400	1,320,800	28,600	2%
8/14/07	754,120	603,720	1,357,840	1,329,110	28,730	2%
8/30/07	770,130	619,450	1,389,580	1,360,430	29,150	2%
9/14/07	773,630	621,630	1,395,260	1,365,830	29,430	2%
10/2/07	788,550	632,220	1,420,770	1,391,420	29,350	2%
10/11/07	799,420	643,030	1,442,450	1,412,750	29,700	2%
10/24/07	814,140	659,200	1,473,340	1,443,180	30,160	2%
11/8/07	830,630	670,220	1,500,850	1,470,390	30,460	2%
11/21/07	839,270	676,620	1,515,890	1,484,950	30,940	2%
12/6/07	846,490	680,600	1,527,090	1,495,870	31,220	2%
12/20/07	851,460	681,950	1,533,410	1,502,010	31,400	2%
01/04/08	859,140	689,010	1,548,150	1,516,310	31,840	2%
01/17/08	890,450	710,250	1,600,700	1,567,520	33,180	2%
01/31/08	890,450	710,250	1,600,700	1,567,520	33,180	2%
02/14/08	891,720	710,510	1,602,230	1,568,990	33,240	2%
02/28/08	891,750	710,520	1,602,270	1,569,040	33,230	2%
03/13/08	891,910	710,590	1,602,500	1,569,960	32,540	2%
03/28/08	892,350	728,530	1,620,880	1,588,160	32,720	2%
04/03/08	892,800	746,480	1,639,280	1,606,360	32,920	2%
04/24/08	922,860	762,610	1,685,470	1,652,060	33,410	2%
05/15/08	965,650	762,610	1,728,260	1,694,230	34,030	2%
05/30/08	969,490	762,620	1,732,110	1,698,010	34,100	2%
06/12/08	993,480	784,230	1,777,710	1,743,070	34,640	2%
06/28/08	1,017,860	802,350	1,820,210	1,784,930	35,280	2%
07/11/08	1,039,900	818,950	1,858,850	1,823,160	35,690	2%
07/25/08	1,061,050	835,240	1,896,290	1,860,450	35,840	2%

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Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
08/07/08	1,074,850	844,480	1,919,330	1,883,350	35,980	2%
08/21/08	1,086,740	852,080	1,938,820	1,902,600	36,220	2%
09/03/08	1,093,870	856,250	1,950,120	1,913,770	36,350	2%
09/19/08	1,102,560	862,370	1,964,930	1,928,280	36,650	2%
10/03/08	1,106,560	864,600	1,971,160	1,934,560	36,600	2%
10/17/08	1,112,490	868,870	1,981,360	1,944,730	36,630	2%
10/31/08	1,116,290	872,170	1,988,460	1,951,690	36,770	2%
11/13/08	1,118,850	874,130	1,992,980	1,956,290	36,690	2%
11/26/08	1,119,800	874,460	1,994,260	1,957,570	36,690	2%
12/11/08	1,125,370	877,950	2,003,320	1,966,470	36,850	2%
12/23/08	1,130,730	882,480	2,013,210	1,976,270	36,940	2%
01/15/09	1,140,130	888,550	2,028,680	1,991,590	37,090	2%
01/30/09	1,144,500	889,790	2,034,290	1,997,130	37,160	2%
02/13/09	1,145,380	890,680	2,036,060	1,998,870	37,190	2%
02/26/09	1,147,290	890,690	2,037,980	2,000,750	37,230	2%
03/12/09	1,149,030	890,690	2,039,720	2,002,350	37,370	2%
03/26/09	1,170,820	894,400	2,065,220	2,027,540	37,680	2%
03/31/09	1,188,770	902,360	2,091,130	2,053,080	38,050	2%
04/22/09	1,206,538	933,867	2,140,405	2,053,080	87,325	4%
05/20/09	1,207,053	942,532	2,149,585	2,053,080	96,505	5%
06/23/09	1,207,694	966,229	2,173,923	2,053,080	120,843	6%
07/13/09	1,215,073	975,004	2,190,077	2,053,080	136,997	7%
08/05/09	1,215,245	986,020	2,201,265	2,053,080	148,185	7%
09/23/09	1,224,755	997,897	2,222,652	2,053,080	169,572	8%
10/08/09	1,225,018	1,000,507	2,225,525	2,053,080	172,445	8%
11/10/09	1,225,019	1,015,122	2,240,141	2,053,080	187,061	9%
12/14/09	1,225,017	1,043,159	2,268,176	2,224,886	43,290	2%
01/13/10	1,225,017	1,056,053	2,281,070	2,237,297	43,773	2%
02/10/10	1,225,094	1,063,325	2,288,419	2,244,318	44,101	2%
03/29/10	1,238,986	1,083,147	2,322,133	2,277,467	44,666	2%
04/15/10	1,243,631	1,104,865	2,348,496	2,303,719	44,777	2%
05/11/10	1,248,820	1,121,123	2,369,943	2,324,171	45,772	2%
06/15/10	1,257,996	1,143,758	2,401,754	2,353,762	47,992	2%
07/08/10	1,264,444	1,149,755	2,414,199	2,364,236	49,963	2%
09/23/10	1,277,524	1,170,368	2,447,892	2,394,689	53,203	2%
10/07/10	1,277,581	1,170,609	2,448,190	2,394,901	53,289	2%
11/03/10	1,280,350	1,176,418	2,456,768	2,401,838	54,930	2%
01/06/11	1,282,570	1,181,420	2,463,990	2,407,570	56,420	2%
02/17/11	1,287,938	1,187,089	2,475,027	2,415,746	59,281	2%
03/17/11	1,299,854	1,197,700	2,497,554	2,432,319	65,235	3%
04/14/11	1,307,876	1,210,345	2,518,221	2,448,084	70,137	3%
05/23/11	1,312,441	1,220,169	2,532,610	2,459,460	73,150	3%
06/23/11	1,321,270	1,249,311	2,570,581	2,494,520	76,061	3%
07/14/11	1,329,190	1,269,019	2,598,209	2,517,690	80,519	3%
08/18/11	1,338,162	1,289,763	2,627,925	2,541,941	85,984	3%
09/22/11	1,339,155	1,305,456	2,644,611	2,556,061	88,550	3%
10/06/11	1,339,155	1,309,381	2,648,536	2,559,407	89,129	3%
11/22/11	1,339,155	1,352,529	2,691,684	2,596,520	95,164	4%

Table 3
Flow Meter Summary (Gallons)
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
12/12/11	1,339,155	1,373,614	2,712,769	2,614,900	97,869	4%
01/18/12	1,339,155	1,395,748	2,734,903	2,634,117	100,786	4%
02/29/12	1,339,306	1,407,427	2,746,733	2,644,225	102,508	4%
03/21/12	1,339,274	1,417,252	2,756,526	2,652,633	103,893	4%
04/04/12	1,346,910	1,420,396	2,767,306	2,660,594	106,712	4%
05/22/12	1,624,598	1,429,160	3,053,758	2,681,564	372,194	14%
06/07/12	1,731,756	1,431,720	3,163,476	2,692,190	471,286	18%
07/05/12	1,734,895	1,431,790	3,166,685	2,692,204	474,481	18%
08/02/12	1,736,045	1,431,812	3,167,857	2,692,708	475,149	18%
09/14/12	1,737,020	1,431,840	3,168,860	2,694,500	474,360	18%
10/04/12	1,750,000	1,433,840	3,183,840	2,696,670	487,170	18%
Flow meters were repaired and faces replaced on January 24, 2013						
01/26/13	4,445	144,177	--	75,841	-	-
01/28/13	-	-	-	406	-	-
01/29/13	1,200	0	1,200	1,096	105	10%
02/04/13	4,654	2,185	6,839	6,433	406	6%
02/07/13	5,859	2,909	8,768	8,238	530	6%
03/07/13	11,425	8,883	20,308	19,289	1,019	5%
03/20/13	18,049	12,372	30,421	28,987	1,434	5%
04/01/13	24,118	13,593	37,711	35,904	1,807	5%
04/11/13	30,746	14,533	45,279	43,110	2,169	5%
05/01/13	32,340	15,133	47,473	44,539	2,934	7%
06/06/13	32,755	38,873	71,628	68,039	3,589	5%
06/18/13	32,755	39,392	72,147	68,532	3,615	5%
06/18/13	32,755	44,875	77,630	73,695	3,935	5%
07/01/13	32,755	61,841	94,596	89,636	4,960	6%
07/18/13	32,755	81,503	114,258	108,142	6,116	6%
08/08/13	32,755	92,049	124,804	117,995	6,809	6%
09/10/13	32,755	94,341	127,096	120,265	6,831	6%
Sump A pump and Sump B discharge hose replaced on September 24, 2013						
09/26/13	35,250	95,333	130,583	123,379	7,204	6%
10/01/13	37,537	96,443	133,980	126,287	7,693	6%
10/18/13	44,925	96,443	141,368	137,269	4,099	3%
11/05/13	45,147	101,098	146,245	137,711	8,534	6%
11/06/13	47,912	101,174	149,086	140,407	8,679	6%
11/14/13	52,801	106,933	159,734	150,525	9,209	6%
12/02/13	74,214	107,600	181,814	171,172	10,642	6%
12/10/13	80,565	119,013	199,578	187,509	12,069	6%
12/20/13	84,155	120,273	204,428	191,809	12,619	7%
12/31/13	84,973	120,278	205,251	192,636	12,615	7%
01/15/14	84,973	120,278	205,251	192,636	12,615	7%
02/13/14	85,330	120,278	205,251	192,636	12,615	7%
03/13/14	85,706	121,293	206,999	194,458	12,541	6%
04/01/14	85,966	121,293	207,259	194,458	12,801	7%
04/12/14	90,237	121,293	211,530	198,400	13,130	7%
04/14/14	94,813	121,293	216,106	202,546	13,560	7%

Table 3
Flow Meter Summary (Gallons)
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
04/22/14	106,935	121,293	228,228	215,879	12,349	6%
05/13/14	114,120	121,293	235,413	222,567	12,846	6%
06/04/14	119,554	129,122	248,676	232,114	16,562	7%
06/05/14	120,961	129,122	250,083	234,267	15,816	7%
06/12/14	129,616	134,329	263,945	245,815	18,130	7%
07/01/14	158,316	164,438	322,754	298,628	24,126	8%
07/02/14	158,701	164,556	323,257	298,959	24,298	8%
08/05/14	159,447	165,368	324,815	300,373	24,442	8%
08/06/14	159,447	165,392	324,839	300,373	24,466	8%
08/07/14	159,447	167,219	326,666	302,021	24,645	8%
08/13/14	165,583	168,830	334,413	308,936	25,477	8%
08/22/14	173,879	176,422	350,301	323,194	27,107	8%
09/05/14	185,636	183,779	369,415	340,357	29,058	9%
09/17/14	197,841	195,374	393,215	361,652	31,563	9%
09/24/14	203,735	200,534	404,269	371,586	32,683	9%
10/01/14	207,855	205,840	413,695	379,956	33,739	9%
10/16/14	221,123	217,531	438,654	402,237	36,417	9%
11/04/14	236,160	229,321	465,481	426,276	39,205	9%
11/13/14	240,712	234,643	475,355	435,167	40,188	9%
12/08/14	242,571	235,940	478,511	438,078	40,433	9%
12/09/14	243,981	237,347	481,328	440,815	40,513	9%
12/12/14	245,981	239,498	485,479	444,853	40,626	9%
12/31/14	269,423	256,529	525,952	484,590	41,362	9%
01/01/15	270,532	257,650	528,182	486,734	41,448	9%
01/12/15	277,196	262,276	539,472	497,841	41,631	8%
01/31/15	280,334	265,875	546,209	504,392	41,817	8%
02/04/15	280,356	266,652	547,008	505,221	41,787	8%
02/28/15	280,376	266,652	547,028	505,234	41,794	8%
03/01/15	280,376	266,652	547,028	505,234	41,794	8%
03/11/15	280,387	266,652	547,039	505,234	41,805	8%
03/18/15	280,391	266,652	547,043	505,234	41,809	8%
04/07/15	280,499.3	266,652	547,151	505,321	41,830	8%
04/13/15	287,154.3	266,652	553,806	511,876	41,930	8%
04/15/15	293,306.3	266,652	559,958	514,049	45,909	9%
04/22/15	295,729.3	270,842	566,571	524,487	42,084	8%
04/24/15	297,320.3	271,384	568,704	526,526	42,178	8%
04/29/15	300,088.3	271,823	571,911	529,679	42,232	8%
04/30/15	300,541.3	271,855	572,396	530,187	42,209	8%

Notes:

1. The influent and effluent flow meters were replaced by Foth on November 30, 2004.
2. Influent flow meters measure more flow than effluent flow meter when all three flow meters are operating continuously.
3. Consultant transition from Foth to SCS BT Squared in April 2009.
4. SCS BT Squared replaces Sump A flow meter May 20, 2009.
5. SCS BT Squared reported Sump A out of service from January 18, 2012 until March 22, 2012
5. Consultant transition from SCS BT Squared to Terracon in May 2012
6. System remained out of operation from October 2012 until January 27, 2013.

Table 3
Flow Meter Summary (Gallons)
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project No. 58127047

Date	Sump A Influent (gallons)	Sump B Influent (gallons)	Total Influent (gallons)	Total Effluent (gallons)	Total Influent Minus Effluent	Flow Meter Variation as a % of Effluent
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7. The three Badger flow meters were repaired and faces replaced on January 24, 2013. January 26, 2013 readings reflect the starting values on the repaired meters. Subsequent readings are the face value minus the January 26, 2013 starting values.

8. Sump A not operational from 6/18//13 through 9/24/2013

9. Sump A pump replaced with a Grundfos SQE5-90 (240 v) submersible pump on 9/24/13

10. Sump B pump discharge hose inside the manhole was replaced on 9/24/13

11. LMI Chemical pump for sodium hydroxide injection was replaced on 6/3/14

12. Transfer pump was replaced on 8/4/14 with a Goulds model 1SV8GC (1 hp)

Created by: N Heim, Terracon

Edited by: S Hodgson, Terracon 4/30/15

Table 4
November 1, 2014 through April 30, 2015
Chromium and VOC Mass Removal Summary
Wisconsin Chrome, Kaukauna, Wisconsin
Terracon Project #58127047

	Concentration		Volume (gal)	Mass (lbs)
	(µg/l)	(lb./gal)		
Sump A				
Total VOCs	1387.5	0.0000116	64,381	0.75
Total Chromium	104	0.0000009	64,381	0.06
Sump B				
Total Chromium	673.0	0.0000056	42,534	0.24

ABBREVIATIONS:

µg/l = micrograms per liter

lb./gal = pound per gallon

gal = gallon

VOCs - Volatile Organic Compounds

lbs = pounds

Notes:

Concentrations are calculated based on averages from sampling events during reporting period

Prepared by: C Ingram, Terracon

Checked by: S Hodgson, Terracon

N:\Projects\2012\58127047\Working Files\Tables\TERRACON - Wis_Chrome_Tables_120621.xls]Table 4

APPENDIX C
LABORATORY ANALYTIC TEST REPORTS AND
FIELD SAMPLING SHEETS

Groundwater Monitoring Field Forms – April 2015

Laboratory Analytical Reports

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: WI CHROME		PROJECT NO. 58127042
PROJECT LOCATION: KAUKAUNA, WI		
SAMPLE POINT: MW-2	SAMPLE POINT DESCRIPTION: IN CONCRETE PAD	
CASING DIAMETER: 2"	IN BETWEEN MIDWEST CARRIERS AND TANN	
WELL DEPTH:		
DATE: 4/15/15	TIME: 1600	DEPTH TO GROUND WATER (FT): 4.91
SAMPLING METHOD: BLADDER PUMP		FLOW RATE: 200 ML/MIN
SAMPLE TIME: 1640		TOTAL PURGED: 2 GALLONS

TIME	WATER LEVEL	TEMP. (°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1605	4.91	8.40	5.32	5.58	128	10.10
1610	5.18	7.24	5.67	5.84	90	4.28
1615	5.22	7.03	5.72	5.78	94	3.46
1620	5.32	6.78	5.74	5.75	99	3.08
1625	5.38	6.95	5.74	5.71	103	2.84
1630	5.45	7.16	5.75	5.64	108	2.63
1635	5.49	7.14	5.78	5.60	108	2.56
1640	5.52	7.24	5.81	5.56	111	2.64

SAMPLE APPEARANCE: VERY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> SLIGHTLY TURBID <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/>	ODOR: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NOT NOTED <input type="checkbox"/>	ANALYSES: TOTAL CHROME
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CLEANING PERFORMED IN FIELD: Alconox and Distilled Water AND Disposable gloves *WATER TO VERIFY OR ADD OTHER CLEANING METHOD PERFORMED

CW

COMMENTS:

SAMPLED BY: CWI DATE: 4/15/15

REVIEWED BY: Scott A. Hodgson DATE: 4/22/15

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: <u>W1 CHROME</u>		PROJECT NO. <u>58127047</u>
PROJECT LOCATION: <u>KAUKAUNA, WI</u>		
SAMPLE POINT: <u>MW-6R</u>	SAMPLE POINT DESCRIPTION: <u>IN LAWN AREA</u>	
CASING DIAMETER: <u>2"</u>	<u>N/NE OF TANK</u>	
WELL DEPTH:		
DATE: <u>4/16/15</u>	TIME: <u>0800</u>	AM/PM: <u>AM</u> DEPTH TO GROUND WATER (FT): <u>4.73</u>
SAMPLING METHOD: <u>BLADDER PUMP</u>		FLOW RATE: <u>200 ml/min</u>
SAMPLE TIME: <u>0845</u>		TOTAL PURGED: <u>2.5 GALLONS</u>

TIME	WATER LEVEL	TEMP. (°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
<u>0810</u>	<u>4.73</u>	<u>6.97</u>	<u>5.57</u>	<u>3.21</u>	<u>154</u>	<u>28.70</u>
<u>0815</u>	<u>6.48</u>	<u>7.43</u>	<u>5.92</u>	<u>3.17</u>	<u>147</u>	<u>17.58</u>
<u>0820</u>	<u>6.92</u>	<u>7.23</u>	<u>6.07</u>	<u>3.12</u>	<u>142</u>	<u>12.60</u>
<u>0825</u>	<u>7.50</u>	<u>7.20</u>	<u>6.30</u>	<u>3.10</u>	<u>132</u>	<u>10.65</u>
<u>0830</u>	<u>7.56</u>	<u>7.19</u>	<u>6.40</u>	<u>3.10</u>	<u>128</u>	<u>9.84</u>
<u>0835</u>	<u>7.87</u>	<u>7.16</u>	<u>6.18</u>	<u>3.08</u>	<u>140</u>	<u>9.85</u>
<u>0840</u>	<u>7.83</u>	<u>7.10</u>	<u>6.32</u>	<u>3.13</u>	<u>134</u>	<u>9.68</u>
<u>0845</u>	<u>7.92</u>	<u>7.10</u>	<u>6.38</u>	<u>3.13</u>	<u>131</u>	<u>9.34</u>

SAMPLE APPEARANCE: <input type="checkbox"/> VERY TURBID <input checked="" type="checkbox"/> TURBID <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> CLEAR	ODOR: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NOT NOTED	ANALYSES: <u>UOX</u> <u>TOTAL CHROME</u>
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CLEANING PERFORMED IN FIELD: Alconox and Distilled Water AND Disposable gloves *ATTN: TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

Ch1

COMMENTS:

SAMPLED BY: Ch1

DATE: 4/16/15

REVIEWED BY: Scott A. Hodgeson

DATE: 4/22/15

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: WI CHROME		PROJECT NO. 58127047
PROJECT LOCATION: KAKAUNA, WI		
SAMPLE POINT: MW-7R	SAMPLE POINT DESCRIPTION: ALONG NORTH END OF TANN BUILDING	
CASING DIAMETER: 2"		
WELL DEPTH:		
DATE: 4/16/15	TIME: 1135	DEPTH TO GROUND WATER (FT): 6.70
SAMPLING METHOD: BUBBLER PUMP	FLOW RATE: 200 ml/min	
SAMPLE TIME: 1215	TOTAL PURGED: 2 GAL.	

TIME	WATER LEVEL	TEMP. (°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1140	6.70	9.41	5.92	2.16	137	14.14
1145	7.83	8.51	6.27	1.66	133	12.14
1150	8.23	8.23	6.36	1.81	132	11.92
1155	8.89	7.87	6.49	2.10	130	11.41
1200	9.59	7.76	6.57	2.40	129	10.85
1205	10.07	7.82	6.58	2.40	130	10.55
1210	OBSTRUCTION	7.98	6.61	2.47	123	10.35
1215	"	8.15	6.63	2.52	125	9.62

SAMPLE APPEARANCE: VERY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> SLIGHTLY TURBID <input checked="" type="checkbox"/>	ODOR: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NOT NOTED <input type="checkbox"/>	ANALYSES: TOTAL CHROME VOC
---	--	---

CLEANING PERFORMED IN FIELD: Alconox and Distilled Water AND Disposable gloves *INITIAL TO VERIFY OR ADD OTHER CLEANING METHOD PERFORMED

CWI

COMMENTS: **GREENISH COLOR / HIT OBSTRUCTION ≈ 10.5' BG PLUMP?**

SAMPLED BY: CWI	DATE: 4/16/15
REVIEWED BY: Scott A. Hodgson	DATE: 4/22/15

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: WI CHROME		PROJECT NO. 58117047	
PROJECT LOCATION: KAUKUNA, WI			
SAMPLE POINT: P-7A	SAMPLE POINT DESCRIPTION: IN 7 NEST (NW CORNER)		
CASING DIAMETER: 2"			
WELL DEPTH:			
DATE: 4/16/15	TIME: 1000	AM/PM: AM	DEPTH TO GROUND WATER (FT): 3.52
SAMPLING METHOD: 3-CORNER PUMP		FLOW RATE: 200 ml/min	
SAMPLE TIME: 1100		TOTAL PURGED: 1.5 G	

TIME	WATER LEVEL	TEMP. (°C)	pH	COND. (mg/cm)	ORP (mV)	DO (mg/L)
1035	3.52	14.21	6.31	1.82	84	17.70
1040	6.97	10.76	5.92	2.16	127	9.59
1045	8.29	10.95	6.22	1.85	114	9.19
1050	9.45	11.12	6.43	1.72	107	9.40
1055	11.53	11.11	6.63	1.65	100	9.51
1100	12.96	11.19	6.74	1.64	97	9.44

TOTAL CHROME

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR	ODOR: YES NO NOT NOTED	ANALYSES: VOC
---	----------------------------------	-------------------------

CLEANING PERFORMED IN FIELD: Alconox and Distilled Water AND Disposable gloves *UNTIL TO VERIFY OR USE OTHER CLEANING METHOD PERFORMANCE
CWI

COMMENTS:
DUP-1 (VOC) TAKEN

SAMPLED BY: CWI	DATE: 4/16/15
REVIEWED BY: Scott A. Hodges	DATE: 4/22/15

TERRACON GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: <u>W1 CHROME</u>		PROJECT NO. <u>58127057</u>
PROJECT LOCATION: <u>KAIKAUNA, WI</u>		
SAMPLE POINT: <u>P-7B</u>	SAMPLE POINT DESCRIPTION: <u>IN 7 NEST</u>	
CASING DIAMETER: <u>2"</u>		
WELL DEPTH:	TOC ELEVATION:	
DATE: <u>4/16/15</u>	TIME: <u>1320</u>	AM/PM: <u>AM</u> DEPTH TO GROUND WATER (FT): <u>N/A</u>

CALCULATION: N/A

SAMPLING METHOD: PERI PUMP

DATE	TIME (AM/PM)	GALLONS REMOVED	COMMENTS
<u>4/16/15</u>	<u>1320</u>		<u>START PURGE</u>
<u>↓</u>	<u>1400</u>	<u>~4</u>	<u>END PURGE</u>
<u>↓</u>	<u>1400</u>		<u>SAMPLED</u>

DISSOLVED OXYGEN: <u>---</u>	FERROUS IRON: <u>---</u>	NITRATE: <u>---</u>
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pH: <u>---</u>	ORP: <u>---</u>	TEMP: <u>---</u>	SPECIFIC CONDUCTANCE (uS/cm) x1000: <u>---</u>
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SAMPLE APPEARANCE: VERY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> CLEAR <input checked="" type="checkbox"/>	ODOR: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NOT NOTED <input type="checkbox"/>	ANALYSES: <u>TOTAL CHROME/VOL</u>
--	--	-----------------------------------

CLEANING PERFORMED IN FIELD: METHANDL AND DISPOSABLE GLOVES

COMMENTS:
BLADDER PUMP INOP, PURGED W/ BAUER INTO CLEAN CONTAINER AND PERI PUMPED TO SAMPLE (PER SAM)

SAMPLED BY: <u>CW1</u>	DATE: <u>4/16/15</u>
REVIEWED BY: <u>Scott A. Hodgson</u>	DATE: <u>4/22/15</u>

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: W1 CHROME		PROJECT NO. 58123047
PROJECT LOCATION: KAUKAUNA, WI		
SAMPLE POINT: MW-10	SAMPLE POINT DESCRIPTION: NEXT TO Sump B	
CASING DIAMETER: 2"		
WELL DEPTH:		
DATE: 4/15/15	TIME: 1445	AM/PM: / DEPTH TO GROUND WATER (FT): 2.32
SAMPLING METHOD: BLADDER PUMP		FLOW RATE: 200 ml/min
SAMPLE TIME: 1550		TOTAL PURGED: 2 GALLONS

TIME	WATER LEVEL	TEMP. (°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1520	2.32	11.86	5.80	8.59	105	8.23
1525	3.34	9.47	5.83	8.92	108	5.73
1530	3.62	8.71	5.82	9.07	112	5.04
1535	3.79	8.45	5.82	9.11	114	4.82
1540	3.86	8.44	5.81	9.12	116	4.66
1545	3.93	8.23	5.81	9.08	118	4.53
1550	4.12	7.93	5.81	9.04	119	4.51

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID <u>CLEAR</u>	ODOR: YES NO <u>NOT NOTED</u>	ANALYSES: TOTAL CHROME
---	----------------------------------	---------------------------

CLEANING PERFORMED IN FIELD: Alconox and Distilled Water AND Disposable gloves *WITAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED
CW1

COMMENTS:

SAMPLED BY: CW1	DATE: 4/15/15
REVIEWED BY: Scott A. Hodson	DATE: 4/22/15

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: WI CHROME		PROJECT NO. 58127047
PROJECT LOCATION: KAWKAUNA, WI		
SAMPLE POINT: MW-12	SAMPLE POINT DESCRIPTION: WEST OF MIDWEST CARRIERS BUILDING	
CASING DIAMETER: 2"		
WELL DEPTH:		
DATE: 4/16/15	TIME 0900	AM/PM AM DEPTH TO GROUND WATER (FT): 0.83
SAMPLING METHOD: BLADDER Pump		FLOW RATE: 200 ml/min
SAMPLE TIME: 1000		TOTAL PURGED: 5 Gallons

TIME	WATER LEVEL	TEMP. (°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
0910	0.83	9.71	6.76	261	102	14.87
0915	1.65	5.73	6.02	6.17	-48	8.45
0920	1.70	5.44	6.01	6.17	-54	6.86
0925	1.77	5.41	6.01	6.15	-52	6.51
0930	1.76	5.29	6.04	6.13	-45	6.29
0935	1.83	5.36	6.00	6.06	-38	5.97
0940	1.85	5.38	5.95	6.05	-30	5.84
0945	1.86	5.42	6.01	6.03	-31	5.77
0950	1.80	5.47	6.02	6.01	-27	5.64
0955	1.83	5.46	6.01	6.01	-26	5.62
1000	1.82	5.47	6.02	6.01	-25	5.54
1005	1.86	5.50	6.04	6.02	-20	5.77
1010	1.82	6.03	6.02	6.02	-20	5.77

SAMPLE APPEARANCE: VERY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> CLEAR <input checked="" type="checkbox"/>	ODOR: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NOT NOTED <input type="checkbox"/>	ANALYSES: TOTAL CHROME
--	--	-------------------------------

CLEANING PERFORMED IN FIELD: Alconox and Distilled Water AND Disposable gloves *TYPICAL TO MANY OF OUR OTHER CLEANING VESSEL PERFORMANCE

CWI

COMMENTS:

AIRLINE CUT TO SAMPLE, FITTING CORRODED, NO SEAL

SAMPLED BY: CWI	DATE: 4/16/15
REVIEWED BY: Scott A. Hodges	DATE: 4/22/15

May 01, 2015

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

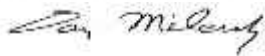
RE: Project: 58127047 WI CHROME
Pace Project No.: 40113402

Dear Scott Hodgson:

Enclosed are the analytical results for sample(s) received by the laboratory on April 18, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40113402001	MW-2	Water	04/15/15 16:40	04/18/15 09:10
40113402002	MW-6R	Water	04/16/15 08:45	04/18/15 09:10
40113402003	MW-7R	Water	04/16/15 12:15	04/18/15 09:10
40113402004	P-7A	Water	04/16/15 11:00	04/18/15 09:10
40113402005	P-7B	Water	04/16/15 12:00	04/18/15 09:10
40113402006	MW-10	Water	04/15/15 15:50	04/18/15 09:10
40113402007	MW-12	Water	04/16/15 10:10	04/18/15 09:10
40113402008	DUP-1	Water	04/16/15 00:00	04/18/15 09:10
40113402009	TRIP BLANK	Water	04/16/15 00:00	04/18/15 09:10

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SAMPLE ANALYTE COUNT

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40113402001	MW-2	EPA 6010	DLB	1	PASI-G
40113402002	MW-6R	EPA 6010	DLB	1	PASI-G
		EPA 8260	LAP	64	PASI-G
40113402003	MW-7R	EPA 6010	DLB	1	PASI-G
		EPA 8260	LAP	64	PASI-G
40113402004	P-7A	EPA 6010	DLB	1	PASI-G
		EPA 8260	LAP	64	PASI-G
40113402005	P-7B	EPA 6010	DLB	1	PASI-G
		EPA 8260	LAP	64	PASI-G
40113402006	MW-10	EPA 6010	DLB	1	PASI-G
40113402007	MW-12	EPA 6010	DLB	1	PASI-G
40113402008	DUP-1	EPA 8260	LAP	64	PASI-G
40113402009	TRIP BLANK	EPA 8260	LAP	64	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 58127047 WI CHROME
Pace Project No.: 40113402

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40113402001	MW-2					
EPA 6010	Chromium, Dissolved	1740	ug/L	5.0	04/29/15 13:36	
40113402002	MW-6R					
EPA 6010	Chromium, Dissolved	441	ug/L	5.0	04/29/15 13:39	
EPA 8260	1,1-Dichloroethane	14.2	ug/L	1.0	04/21/15 12:16	
EPA 8260	1,1-Dichloroethene	8.5	ug/L	1.0	04/21/15 12:16	
EPA 8260	1,1,1-Trichloroethane	57.6	ug/L	1.0	04/21/15 12:16	
EPA 8260	Trichloroethene	0.74J	ug/L	1.0	04/21/15 12:16	
40113402003	MW-7R					
EPA 6010	Chromium, Dissolved	6780	ug/L	5.0	04/29/15 13:43	
EPA 8260	Chloroethane	19.3	ug/L	10.0	04/21/15 14:09	
EPA 8260	1,1-Dichloroethane	234	ug/L	10.0	04/21/15 14:09	
EPA 8260	1,1-Dichloroethene	267	ug/L	10.0	04/21/15 14:09	
EPA 8260	1,1,1-Trichloroethane	1280	ug/L	10.0	04/21/15 14:09	
EPA 8260	1,1,2-Trichloroethane	2.7J	ug/L	10.0	04/21/15 14:09	
EPA 8260	Trichloroethene	10.0	ug/L	10.0	04/21/15 14:09	
40113402004	P-7A					
EPA 8260	1,1-Dichloroethane	412	ug/L	2.0	04/21/15 14:31	
EPA 8260	1,2-Dichloroethane	2.9	ug/L	2.0	04/21/15 14:31	
EPA 8260	1,1-Dichloroethene	82.2	ug/L	2.0	04/21/15 14:31	
EPA 8260	Methylene Chloride	0.96J	ug/L	2.0	04/21/15 14:31	
EPA 8260	1,1,1-Trichloroethane	11.8	ug/L	2.0	04/21/15 14:31	
EPA 8260	1,1,2-Trichloroethane	1.5J	ug/L	2.0	04/21/15 14:31	
40113402005	P-7B					
EPA 6010	Chromium, Dissolved	43.2	ug/L	5.0	04/30/15 11:33	
EPA 8260	1,1-Dichloroethane	9080	ug/L	200	04/21/15 13:24	
EPA 8260	1,1-Dichloroethene	736	ug/L	200	04/21/15 13:24	
EPA 8260	1,1,1-Trichloroethane	18800	ug/L	200	04/21/15 13:24	
40113402006	MW-10					
EPA 6010	Chromium, Dissolved	62.6	ug/L	5.0	04/29/15 13:55	
40113402007	MW-12					
EPA 6010	Chromium, Dissolved	2.2J	ug/L	5.0	04/29/15 14:02	
40113402008	DUP-1					
EPA 8260	1,1-Dichloroethane	377	ug/L	2.5	04/21/15 14:53	
EPA 8260	1,2-Dichloroethane	2.8	ug/L	2.5	04/21/15 14:53	
EPA 8260	1,1-Dichloroethene	71.1	ug/L	2.5	04/21/15 14:53	
EPA 8260	Methylene Chloride	2.8	ug/L	2.5	04/21/15 14:53	
EPA 8260	1,1,1-Trichloroethane	10.6	ug/L	2.5	04/21/15 14:53	
EPA 8260	1,1,2-Trichloroethane	1.6J	ug/L	2.5	04/21/15 14:53	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Method: EPA 6010

Description: 6010 MET ICP, Dissolved

Client: Terracon, Inc. - Franklin

Date: May 01, 2015

General Information:

1 sample was analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Method: EPA 6010

Description: 6010 MET ICP, Dissolved

Client: Terracon, Inc. - Franklin

Date: May 01, 2015

General Information:

6 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Method: EPA 8260

Description: 8260 MSV

Client: Terracon, Inc. - Franklin

Date: May 01, 2015

General Information:

6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: MW-2 **Lab ID: 40113402001** Collected: 04/15/15 16:40 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Chromium, Dissolved	1740	ug/L	5.0	2.1	1		04/29/15 13:36	7440-47-3	

Sample: MW-6R **Lab ID: 40113402002** Collected: 04/16/15 08:45 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Chromium, Dissolved	441	ug/L	5.0	2.1	1		04/29/15 13:39	7440-47-3	

8260 MSV Analytical Method: EPA 8260									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Benzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		04/21/15 12:16	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		04/21/15 12:16	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		04/21/15 12:16	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		04/21/15 12:16	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		04/21/15 12:16	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		04/21/15 12:16	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		04/21/15 12:16	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		04/21/15 12:16	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		04/21/15 12:16	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		04/21/15 12:16	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		04/21/15 12:16	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		04/21/15 12:16	75-71-8	
1,1-Dichloroethane	14.2	ug/L	1.0	0.24	1		04/21/15 12:16	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		04/21/15 12:16	107-06-2	
1,1-Dichloroethene	8.5	ug/L	1.0	0.41	1		04/21/15 12:16	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		04/21/15 12:16	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		04/21/15 12:16	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		04/21/15 12:16	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		04/21/15 12:16	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		04/21/15 12:16	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	10061-01-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: MW-6R **Lab ID: 40113402002** Collected: 04/16/15 08:45 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		04/21/15 12:16	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		04/21/15 12:16	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		04/21/15 12:16	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		04/21/15 12:16	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		04/21/15 12:16	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/21/15 12:16	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		04/21/15 12:16	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		04/21/15 12:16	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		04/21/15 12:16	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		04/21/15 12:16	120-82-1	
1,1,1-Trichloroethane	57.6	ug/L	1.0	0.50	1		04/21/15 12:16	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		04/21/15 12:16	79-00-5	
Trichloroethene	0.74J	ug/L	1.0	0.33	1		04/21/15 12:16	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		04/21/15 12:16	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		04/21/15 12:16	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/21/15 12:16	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		04/21/15 12:16	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		04/21/15 12:16	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		04/21/15 12:16	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		04/21/15 12:16	2037-26-5	

Sample: MW-7R **Lab ID: 40113402003** Collected: 04/16/15 12:15 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Chromium, Dissolved	6780	ug/L	5.0	2.1	1		04/29/15 13:43	7440-47-3	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		04/21/15 14:09	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		04/21/15 14:09	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	75-27-4	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: MW-7R **Lab ID: 40113402003** Collected: 04/16/15 12:15 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Bromoform	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		04/21/15 14:09	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		04/21/15 14:09	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		04/21/15 14:09	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	108-90-7	
Chloroethane	19.3	ug/L	10.0	3.7	10		04/21/15 14:09	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		04/21/15 14:09	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		04/21/15 14:09	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		04/21/15 14:09	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		04/21/15 14:09	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		04/21/15 14:09	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		04/21/15 14:09	75-71-8	
1,1-Dichloroethane	234	ug/L	10.0	2.4	10		04/21/15 14:09	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		04/21/15 14:09	107-06-2	
1,1-Dichloroethene	267	ug/L	10.0	4.1	10		04/21/15 14:09	75-35-4	
cis-1,2-Dichloroethene	<2.6	ug/L	10.0	2.6	10		04/21/15 14:09	156-59-2	
trans-1,2-Dichloroethene	<2.6	ug/L	10.0	2.6	10		04/21/15 14:09	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		04/21/15 14:09	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		04/21/15 14:09	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		04/21/15 14:09	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		04/21/15 14:09	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	108-20-3	
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		04/21/15 14:09	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		04/21/15 14:09	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	99-87-6	
Methylene Chloride	<2.3	ug/L	10.0	2.3	10		04/21/15 14:09	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		04/21/15 14:09	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		04/21/15 14:09	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		04/21/15 14:09	630-20-6	
1,1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		04/21/15 14:09	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		04/21/15 14:09	87-61-6	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: MW-7R **Lab ID: 40113402003** Collected: 04/16/15 12:15 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		04/21/15 14:09	120-82-1	
1,1,1-Trichloroethane	1280	ug/L	10.0	5.0	10		04/21/15 14:09	71-55-6	
1,1,2-Trichloroethane	2.7J	ug/L	10.0	2.0	10		04/21/15 14:09	79-00-5	
Trichloroethene	10.0	ug/L	10.0	3.3	10		04/21/15 14:09	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		04/21/15 14:09	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	108-67-8	
Vinyl chloride	<1.8	ug/L	10.0	1.8	10		04/21/15 14:09	75-01-4	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		04/21/15 14:09	179601-23-1	
o-Xylene	<5.0	ug/L	10.0	5.0	10		04/21/15 14:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		10		04/21/15 14:09	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		10		04/21/15 14:09	1868-53-7	
Toluene-d8 (S)	103	%	70-130		10		04/21/15 14:09	2037-26-5	

Sample: P-7A **Lab ID: 40113402004** Collected: 04/16/15 11:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Chromium, Dissolved	<2.1	ug/L	5.0	2.1	1		04/29/15 13:53	7440-47-3	
8260 MSV Analytical Method: EPA 8260									
Benzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	71-43-2	
Bromobenzene	<0.46	ug/L	2.0	0.46	2		04/21/15 14:31	108-86-1	
Bromochloromethane	<0.68	ug/L	2.0	0.68	2		04/21/15 14:31	74-97-5	
Bromodichloromethane	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	75-27-4	
Bromoform	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	75-25-2	
Bromomethane	<4.9	ug/L	10.0	4.9	2		04/21/15 14:31	74-83-9	
n-Butylbenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	104-51-8	
sec-Butylbenzene	<4.4	ug/L	10.0	4.4	2		04/21/15 14:31	135-98-8	
tert-Butylbenzene	<0.36	ug/L	2.0	0.36	2		04/21/15 14:31	98-06-6	
Carbon tetrachloride	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	56-23-5	
Chlorobenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	108-90-7	
Chloroethane	<0.75	ug/L	2.0	0.75	2		04/21/15 14:31	75-00-3	
Chloroform	<5.0	ug/L	10.0	5.0	2		04/21/15 14:31	67-66-3	
Chloromethane	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	74-87-3	
2-Chlorotoluene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	95-49-8	
4-Chlorotoluene	<0.43	ug/L	2.0	0.43	2		04/21/15 14:31	106-43-4	
1,2-Dibromo-3-chloropropane	<4.3	ug/L	10.0	4.3	2		04/21/15 14:31	96-12-8	
Dibromochloromethane	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	124-48-1	
1,2-Dibromoethane (EDB)	<0.36	ug/L	2.0	0.36	2		04/21/15 14:31	106-93-4	
Dibromomethane	<0.85	ug/L	2.0	0.85	2		04/21/15 14:31	74-95-3	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: P-7A Lab ID: 40113402004 Collected: 04/16/15 11:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,2-Dichlorobenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	95-50-1	
1,3-Dichlorobenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	541-73-1	
1,4-Dichlorobenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	106-46-7	
Dichlorodifluoromethane	<0.45	ug/L	2.0	0.45	2		04/21/15 14:31	75-71-8	
1,1-Dichloroethane	412	ug/L	2.0	0.48	2		04/21/15 14:31	75-34-3	
1,2-Dichloroethane	2.9	ug/L	2.0	0.34	2		04/21/15 14:31	107-06-2	
1,1-Dichloroethene	82.2	ug/L	2.0	0.82	2		04/21/15 14:31	75-35-4	
cis-1,2-Dichloroethene	<0.51	ug/L	2.0	0.51	2		04/21/15 14:31	156-59-2	
trans-1,2-Dichloroethene	<0.51	ug/L	2.0	0.51	2		04/21/15 14:31	156-60-5	
1,2-Dichloropropane	<0.47	ug/L	2.0	0.47	2		04/21/15 14:31	78-87-5	
1,3-Dichloropropane	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	142-28-9	
2,2-Dichloropropane	<0.97	ug/L	2.0	0.97	2		04/21/15 14:31	594-20-7	
1,1-Dichloropropene	<0.88	ug/L	2.0	0.88	2		04/21/15 14:31	563-58-6	
cis-1,3-Dichloropropene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	10061-01-5	
trans-1,3-Dichloropropene	<0.46	ug/L	2.0	0.46	2		04/21/15 14:31	10061-02-6	
Diisopropyl ether	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	108-20-3	
Ethylbenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	100-41-4	
Hexachloro-1,3-butadiene	<4.2	ug/L	10.0	4.2	2		04/21/15 14:31	87-68-3	
Isopropylbenzene (Cumene)	<0.29	ug/L	2.0	0.29	2		04/21/15 14:31	98-82-8	
p-Isopropyltoluene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	99-87-6	
Methylene Chloride	0.96J	ug/L	2.0	0.47	2		04/21/15 14:31	75-09-2	
Methyl-tert-butyl ether	<0.35	ug/L	2.0	0.35	2		04/21/15 14:31	1634-04-4	
Naphthalene	<5.0	ug/L	10.0	5.0	2		04/21/15 14:31	91-20-3	
n-Propylbenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	103-65-1	
Styrene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	100-42-5	
1,1,1,2-Tetrachloroethane	<0.36	ug/L	2.0	0.36	2		04/21/15 14:31	630-20-6	
1,1,2,2-Tetrachloroethane	<0.50	ug/L	2.0	0.50	2		04/21/15 14:31	79-34-5	
Tetrachloroethene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	127-18-4	
Toluene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	108-88-3	
1,2,3-Trichlorobenzene	<4.3	ug/L	10.0	4.3	2		04/21/15 14:31	87-61-6	
1,2,4-Trichlorobenzene	<4.4	ug/L	10.0	4.4	2		04/21/15 14:31	120-82-1	
1,1,1-Trichloroethane	11.8	ug/L	2.0	1.0	2		04/21/15 14:31	71-55-6	
1,1,2-Trichloroethane	1.5J	ug/L	2.0	0.39	2		04/21/15 14:31	79-00-5	
Trichloroethene	<0.66	ug/L	2.0	0.66	2		04/21/15 14:31	79-01-6	
Trichlorofluoromethane	<0.37	ug/L	2.0	0.37	2		04/21/15 14:31	75-69-4	
1,2,3-Trichloropropane	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	96-18-4	
1,2,4-Trimethylbenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	95-63-6	
1,3,5-Trimethylbenzene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	108-67-8	
Vinyl chloride	<0.35	ug/L	2.0	0.35	2		04/21/15 14:31	75-01-4	
m&p-Xylene	<2.0	ug/L	4.0	2.0	2		04/21/15 14:31	179601-23-1	
o-Xylene	<1.0	ug/L	2.0	1.0	2		04/21/15 14:31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		2		04/21/15 14:31	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		2		04/21/15 14:31	1868-53-7	
Toluene-d8 (S)	101	%	70-130		2		04/21/15 14:31	2037-26-5	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: P-7B **Lab ID: 40113402005** Collected: 04/16/15 12:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium, Dissolved	43.2	ug/L	5.0	1.5	1	04/29/15 10:07	04/30/15 11:33	7440-47-3	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<100	ug/L	200	100	200		04/21/15 13:24	71-43-2	
Bromobenzene	<46.0	ug/L	200	46.0	200		04/21/15 13:24	108-86-1	
Bromochloromethane	<68.1	ug/L	200	68.1	200		04/21/15 13:24	74-97-5	
Bromodichloromethane	<100	ug/L	200	100	200		04/21/15 13:24	75-27-4	
Bromoform	<100	ug/L	200	100	200		04/21/15 13:24	75-25-2	
Bromomethane	<487	ug/L	1000	487	200		04/21/15 13:24	74-83-9	
n-Butylbenzene	<100	ug/L	200	100	200		04/21/15 13:24	104-51-8	
sec-Butylbenzene	<437	ug/L	1000	437	200		04/21/15 13:24	135-98-8	
tert-Butylbenzene	<36.1	ug/L	200	36.1	200		04/21/15 13:24	98-06-6	
Carbon tetrachloride	<100	ug/L	200	100	200		04/21/15 13:24	56-23-5	
Chlorobenzene	<100	ug/L	200	100	200		04/21/15 13:24	108-90-7	
Chloroethane	<74.9	ug/L	200	74.9	200		04/21/15 13:24	75-00-3	
Chloroform	<500	ug/L	1000	500	200		04/21/15 13:24	67-66-3	
Chloromethane	<100	ug/L	200	100	200		04/21/15 13:24	74-87-3	
2-Chlorotoluene	<100	ug/L	200	100	200		04/21/15 13:24	95-49-8	
4-Chlorotoluene	<42.7	ug/L	200	42.7	200		04/21/15 13:24	106-43-4	
1,2-Dibromo-3-chloropropane	<433	ug/L	1000	433	200		04/21/15 13:24	96-12-8	
Dibromochloromethane	<100	ug/L	200	100	200		04/21/15 13:24	124-48-1	
1,2-Dibromoethane (EDB)	<35.6	ug/L	200	35.6	200		04/21/15 13:24	106-93-4	
Dibromomethane	<85.3	ug/L	200	85.3	200		04/21/15 13:24	74-95-3	
1,2-Dichlorobenzene	<100	ug/L	200	100	200		04/21/15 13:24	95-50-1	
1,3-Dichlorobenzene	<100	ug/L	200	100	200		04/21/15 13:24	541-73-1	
1,4-Dichlorobenzene	<100	ug/L	200	100	200		04/21/15 13:24	106-46-7	
Dichlorodifluoromethane	<44.8	ug/L	200	44.8	200		04/21/15 13:24	75-71-8	
1,1-Dichloroethane	9080	ug/L	200	48.3	200		04/21/15 13:24	75-34-3	
1,2-Dichloroethane	<33.6	ug/L	200	33.6	200		04/21/15 13:24	107-06-2	
1,1-Dichloroethene	736	ug/L	200	82.0	200		04/21/15 13:24	75-35-4	
cis-1,2-Dichloroethene	<51.2	ug/L	200	51.2	200		04/21/15 13:24	156-59-2	
trans-1,2-Dichloroethene	<51.3	ug/L	200	51.3	200		04/21/15 13:24	156-60-5	
1,2-Dichloropropane	<46.6	ug/L	200	46.6	200		04/21/15 13:24	78-87-5	
1,3-Dichloropropane	<100	ug/L	200	100	200		04/21/15 13:24	142-28-9	
2,2-Dichloropropane	<96.8	ug/L	200	96.8	200		04/21/15 13:24	594-20-7	
1,1-Dichloropropene	<88.2	ug/L	200	88.2	200		04/21/15 13:24	563-58-6	
cis-1,3-Dichloropropene	<100	ug/L	200	100	200		04/21/15 13:24	10061-01-5	
trans-1,3-Dichloropropene	<45.9	ug/L	200	45.9	200		04/21/15 13:24	10061-02-6	
Diisopropyl ether	<100	ug/L	200	100	200		04/21/15 13:24	108-20-3	
Ethylbenzene	<100	ug/L	200	100	200		04/21/15 13:24	100-41-4	
Hexachloro-1,3-butadiene	<421	ug/L	1000	421	200		04/21/15 13:24	87-68-3	
Isopropylbenzene (Cumene)	<28.7	ug/L	200	28.7	200		04/21/15 13:24	98-82-8	
p-Isopropyltoluene	<100	ug/L	200	100	200		04/21/15 13:24	99-87-6	
Methylene Chloride	<46.5	ug/L	200	46.5	200		04/21/15 13:24	75-09-2	
Methyl-tert-butyl ether	<34.8	ug/L	200	34.8	200		04/21/15 13:24	1634-04-4	
Naphthalene	<500	ug/L	1000	500	200		04/21/15 13:24	91-20-3	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: P-7B **Lab ID: 40113402005** Collected: 04/16/15 12:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
n-Propylbenzene	<100	ug/L	200	100	200		04/21/15 13:24	103-65-1	
Styrene	<100	ug/L	200	100	200		04/21/15 13:24	100-42-5	
1,1,1,2-Tetrachloroethane	<36.1	ug/L	200	36.1	200		04/21/15 13:24	630-20-6	
1,1,2,2-Tetrachloroethane	<49.9	ug/L	200	49.9	200		04/21/15 13:24	79-34-5	
Tetrachloroethene	<100	ug/L	200	100	200		04/21/15 13:24	127-18-4	
Toluene	<100	ug/L	200	100	200		04/21/15 13:24	108-88-3	
1,2,3-Trichlorobenzene	<427	ug/L	1000	427	200		04/21/15 13:24	87-61-6	
1,2,4-Trichlorobenzene	<442	ug/L	1000	442	200		04/21/15 13:24	120-82-1	
1,1,1-Trichloroethane	18800	ug/L	200	100	200		04/21/15 13:24	71-55-6	
1,1,2-Trichloroethane	<39.5	ug/L	200	39.5	200		04/21/15 13:24	79-00-5	
Trichloroethene	<66.1	ug/L	200	66.1	200		04/21/15 13:24	79-01-6	
Trichlorofluoromethane	<37.0	ug/L	200	37.0	200		04/21/15 13:24	75-69-4	
1,2,3-Trichloropropane	<100	ug/L	200	100	200		04/21/15 13:24	96-18-4	
1,2,4-Trimethylbenzene	<100	ug/L	200	100	200		04/21/15 13:24	95-63-6	
1,3,5-Trimethylbenzene	<100	ug/L	200	100	200		04/21/15 13:24	108-67-8	
Vinyl chloride	<35.1	ug/L	200	35.1	200		04/21/15 13:24	75-01-4	
m&p-Xylene	<200	ug/L	400	200	200		04/21/15 13:24	179601-23-1	
o-Xylene	<100	ug/L	200	100	200		04/21/15 13:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		200		04/21/15 13:24	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		200		04/21/15 13:24	1868-53-7	
Toluene-d8 (S)	102	%	70-130		200		04/21/15 13:24	2037-26-5	

Sample: MW-10 **Lab ID: 40113402006** Collected: 04/15/15 15:50 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Chromium, Dissolved	62.6	ug/L	5.0	2.1	1		04/29/15 13:55	7440-47-3	

Sample: MW-12 **Lab ID: 40113402007** Collected: 04/16/15 10:10 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Chromium, Dissolved	2.2J	ug/L	5.0	2.1	1		04/29/15 14:02	7440-47-3	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: DUP-1 Lab ID: 40113402008 Collected: 04/16/15 00:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	71-43-2	
Bromobenzene	<0.58	ug/L	2.5	0.58	2.5		04/21/15 14:53	108-86-1	
Bromochloromethane	<0.85	ug/L	2.5	0.85	2.5		04/21/15 14:53	74-97-5	
Bromodichloromethane	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	75-27-4	
Bromoform	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	75-25-2	
Bromomethane	<6.1	ug/L	12.5	6.1	2.5		04/21/15 14:53	74-83-9	
n-Butylbenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	104-51-8	
sec-Butylbenzene	<5.5	ug/L	12.5	5.5	2.5		04/21/15 14:53	135-98-8	
tert-Butylbenzene	<0.45	ug/L	2.5	0.45	2.5		04/21/15 14:53	98-06-6	
Carbon tetrachloride	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	56-23-5	
Chlorobenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	108-90-7	
Chloroethane	<0.94	ug/L	2.5	0.94	2.5		04/21/15 14:53	75-00-3	
Chloroform	<6.2	ug/L	12.5	6.2	2.5		04/21/15 14:53	67-66-3	
Chloromethane	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	74-87-3	
2-Chlorotoluene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	95-49-8	
4-Chlorotoluene	<0.53	ug/L	2.5	0.53	2.5		04/21/15 14:53	106-43-4	
1,2-Dibromo-3-chloropropane	<5.4	ug/L	12.5	5.4	2.5		04/21/15 14:53	96-12-8	
Dibromochloromethane	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	124-48-1	
1,2-Dibromoethane (EDB)	<0.44	ug/L	2.5	0.44	2.5		04/21/15 14:53	106-93-4	
Dibromomethane	<1.1	ug/L	2.5	1.1	2.5		04/21/15 14:53	74-95-3	
1,2-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	95-50-1	
1,3-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	541-73-1	
1,4-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	106-46-7	
Dichlorodifluoromethane	<0.56	ug/L	2.5	0.56	2.5		04/21/15 14:53	75-71-8	
1,1-Dichloroethane	377	ug/L	2.5	0.60	2.5		04/21/15 14:53	75-34-3	
1,2-Dichloroethane	2.8	ug/L	2.5	0.42	2.5		04/21/15 14:53	107-06-2	
1,1-Dichloroethene	71.1	ug/L	2.5	1.0	2.5		04/21/15 14:53	75-35-4	
cis-1,2-Dichloroethene	<0.64	ug/L	2.5	0.64	2.5		04/21/15 14:53	156-59-2	
trans-1,2-Dichloroethene	<0.64	ug/L	2.5	0.64	2.5		04/21/15 14:53	156-60-5	
1,2-Dichloropropane	<0.58	ug/L	2.5	0.58	2.5		04/21/15 14:53	78-87-5	
1,3-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	142-28-9	
2,2-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	594-20-7	
1,1-Dichloropropene	<1.1	ug/L	2.5	1.1	2.5		04/21/15 14:53	563-58-6	
cis-1,3-Dichloropropene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	10061-01-5	
trans-1,3-Dichloropropene	<0.57	ug/L	2.5	0.57	2.5		04/21/15 14:53	10061-02-6	
Diisopropyl ether	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	108-20-3	
Ethylbenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	100-41-4	
Hexachloro-1,3-butadiene	<5.3	ug/L	12.5	5.3	2.5		04/21/15 14:53	87-68-3	
Isopropylbenzene (Cumene)	<0.36	ug/L	2.5	0.36	2.5		04/21/15 14:53	98-82-8	
p-Isopropyltoluene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	99-87-6	
Methylene Chloride	2.8	ug/L	2.5	0.58	2.5		04/21/15 14:53	75-09-2	
Methyl-tert-butyl ether	<0.44	ug/L	2.5	0.44	2.5		04/21/15 14:53	1634-04-4	
Naphthalene	<6.2	ug/L	12.5	6.2	2.5		04/21/15 14:53	91-20-3	
n-Propylbenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	103-65-1	
Styrene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45	ug/L	2.5	0.45	2.5		04/21/15 14:53	630-20-6	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: DUP-1 Lab ID: 40113402008 Collected: 04/16/15 00:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.62	ug/L	2.5	0.62	2.5		04/21/15 14:53	79-34-5	
Tetrachloroethene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	127-18-4	
Toluene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	108-88-3	
1,2,3-Trichlorobenzene	<5.3	ug/L	12.5	5.3	2.5		04/21/15 14:53	87-61-6	
1,2,4-Trichlorobenzene	<5.5	ug/L	12.5	5.5	2.5		04/21/15 14:53	120-82-1	
1,1,1-Trichloroethane	10.6	ug/L	2.5	1.2	2.5		04/21/15 14:53	71-55-6	
1,1,2-Trichloroethane	1.6J	ug/L	2.5	0.49	2.5		04/21/15 14:53	79-00-5	
Trichloroethene	<0.83	ug/L	2.5	0.83	2.5		04/21/15 14:53	79-01-6	
Trichlorofluoromethane	<0.46	ug/L	2.5	0.46	2.5		04/21/15 14:53	75-69-4	
1,2,3-Trichloropropane	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	96-18-4	
1,2,4-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	95-63-6	
1,3,5-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	108-67-8	
Vinyl chloride	<0.44	ug/L	2.5	0.44	2.5		04/21/15 14:53	75-01-4	
m&p-Xylene	<2.5	ug/L	5.0	2.5	2.5		04/21/15 14:53	179601-23-1	
o-Xylene	<1.2	ug/L	2.5	1.2	2.5		04/21/15 14:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		2.5		04/21/15 14:53	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		2.5		04/21/15 14:53	1868-53-7	
Toluene-d8 (S)	99	%	70-130		2.5		04/21/15 14:53	2037-26-5	

Sample: TRIP BLANK Lab ID: 40113402009 Collected: 04/16/15 00:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		04/22/15 08:26	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		04/22/15 08:26	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		04/22/15 08:26	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		04/22/15 08:26	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		04/22/15 08:26	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		04/22/15 08:26	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		04/22/15 08:26	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		04/22/15 08:26	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		04/22/15 08:26	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		04/22/15 08:26	106-93-4	

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ANALYTICAL RESULTS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Sample: TRIP BLANK Lab ID: 40113402009 Collected: 04/16/15 00:00 Received: 04/18/15 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Dibromomethane	<0.43	ug/L	1.0	0.43	1		04/22/15 08:26	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		04/22/15 08:26	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		04/22/15 08:26	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		04/22/15 08:26	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		04/22/15 08:26	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		04/22/15 08:26	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		04/22/15 08:26	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		04/22/15 08:26	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		04/22/15 08:26	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		04/22/15 08:26	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		04/22/15 08:26	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		04/22/15 08:26	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		04/22/15 08:26	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		04/22/15 08:26	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		04/22/15 08:26	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/22/15 08:26	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		04/22/15 08:26	630-20-6	
1,1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		04/22/15 08:26	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		04/22/15 08:26	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		04/22/15 08:26	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		04/22/15 08:26	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		04/22/15 08:26	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		04/22/15 08:26	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		04/22/15 08:26	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/22/15 08:26	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		04/22/15 08:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		04/22/15 08:26	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		04/22/15 08:26	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		04/22/15 08:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

QC Batch: ICP/10465 Analysis Method: EPA 6010
 QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
 Associated Lab Samples: 40113402001, 40113402002, 40113402003, 40113402004, 40113402006, 40113402007

METHOD BLANK: 1148619 Matrix: Water
 Associated Lab Samples: 40113402001, 40113402002, 40113402003, 40113402004, 40113402006, 40113402007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	5.0	04/29/15 13:08	

LABORATORY CONTROL SAMPLE: 1148620

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	477	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1148621 1148622

Parameter	Units	40113564001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	ug/L	<2.1	500	500	497	483	99	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME
Pace Project No.: 40113402

QC Batch: MPRP/11798 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 40113402005

METHOD BLANK: 1148819 Matrix: Water
Associated Lab Samples: 40113402005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<1.5	5.0	04/30/15 11:29	

LABORATORY CONTROL SAMPLE: 1148820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	488	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1148821 1148822

Parameter	Units	40113402005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	ug/L	43.2	500	500	508	527	93	97	75-125	4	20	

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

QC Batch: MSV/28120 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40113402002, 40113402003, 40113402004, 40113402005, 40113402008

METHOD BLANK: 1144209 Matrix: Water
Associated Lab Samples: 40113402002, 40113402003, 40113402004, 40113402005, 40113402008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	04/20/15 19:59	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	04/20/15 19:59	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	04/20/15 19:59	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	04/20/15 19:59	
1,1-Dichloroethane	ug/L	<0.24	1.0	04/20/15 19:59	
1,1-Dichloroethene	ug/L	<0.41	1.0	04/20/15 19:59	
1,1-Dichloropropene	ug/L	<0.44	1.0	04/20/15 19:59	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	04/20/15 19:59	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	04/20/15 19:59	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	04/20/15 19:59	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	04/20/15 19:59	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	04/20/15 19:59	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	04/20/15 19:59	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	04/20/15 19:59	
1,2-Dichloroethane	ug/L	<0.17	1.0	04/20/15 19:59	
1,2-Dichloropropane	ug/L	<0.23	1.0	04/20/15 19:59	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	04/20/15 19:59	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	04/20/15 19:59	
1,3-Dichloropropane	ug/L	<0.50	1.0	04/20/15 19:59	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	04/20/15 19:59	
2,2-Dichloropropane	ug/L	<0.48	1.0	04/20/15 19:59	
2-Chlorotoluene	ug/L	<0.50	1.0	04/20/15 19:59	
4-Chlorotoluene	ug/L	<0.21	1.0	04/20/15 19:59	
Benzene	ug/L	<0.50	1.0	04/20/15 19:59	
Bromobenzene	ug/L	<0.23	1.0	04/20/15 19:59	
Bromochloromethane	ug/L	<0.34	1.0	04/20/15 19:59	
Bromodichloromethane	ug/L	<0.50	1.0	04/20/15 19:59	
Bromoform	ug/L	<0.50	1.0	04/20/15 19:59	
Bromomethane	ug/L	<2.4	5.0	04/20/15 19:59	
Carbon tetrachloride	ug/L	<0.50	1.0	04/20/15 19:59	
Chlorobenzene	ug/L	<0.50	1.0	04/20/15 19:59	
Chloroethane	ug/L	<0.37	1.0	04/20/15 19:59	
Chloroform	ug/L	<2.5	5.0	04/20/15 19:59	
Chloromethane	ug/L	<0.50	1.0	04/20/15 19:59	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	04/20/15 19:59	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	04/20/15 19:59	
Dibromochloromethane	ug/L	<0.50	1.0	04/20/15 19:59	
Dibromomethane	ug/L	<0.43	1.0	04/20/15 19:59	
Dichlorodifluoromethane	ug/L	<0.22	1.0	04/20/15 19:59	
Diisopropyl ether	ug/L	<0.50	1.0	04/20/15 19:59	
Ethylbenzene	ug/L	<0.50	1.0	04/20/15 19:59	

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

METHOD BLANK: 1144209

Matrix: Water

Associated Lab Samples: 40113402002, 40113402003, 40113402004, 40113402005, 40113402008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	04/20/15 19:59	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	04/20/15 19:59	
m&p-Xylene	ug/L	<1.0	2.0	04/20/15 19:59	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	04/20/15 19:59	
Methylene Chloride	ug/L	<0.23	1.0	04/20/15 19:59	
n-Butylbenzene	ug/L	<0.50	1.0	04/20/15 19:59	
n-Propylbenzene	ug/L	<0.50	1.0	04/20/15 19:59	
Naphthalene	ug/L	<2.5	5.0	04/20/15 19:59	
o-Xylene	ug/L	<0.50	1.0	04/20/15 19:59	
p-Isopropyltoluene	ug/L	<0.50	1.0	04/20/15 19:59	
sec-Butylbenzene	ug/L	<2.2	5.0	04/20/15 19:59	
Styrene	ug/L	<0.50	1.0	04/20/15 19:59	
tert-Butylbenzene	ug/L	<0.18	1.0	04/20/15 19:59	
Tetrachloroethene	ug/L	<0.50	1.0	04/20/15 19:59	
Toluene	ug/L	<0.50	1.0	04/20/15 19:59	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	04/20/15 19:59	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	04/20/15 19:59	
Trichloroethene	ug/L	<0.33	1.0	04/20/15 19:59	
Trichlorofluoromethane	ug/L	<0.18	1.0	04/20/15 19:59	
Vinyl chloride	ug/L	<0.18	1.0	04/20/15 19:59	
4-Bromofluorobenzene (S)	%	101	70-130	04/20/15 19:59	
Dibromofluoromethane (S)	%	100	70-130	04/20/15 19:59	
Toluene-d8 (S)	%	98	70-130	04/20/15 19:59	

LABORATORY CONTROL SAMPLE & LCSD: 1144210

1144211

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	57.3	57.5	115	115	70-130	0	20	
1,1,2,2-Tetrachloroethane	ug/L	50	50.0	50.2	100	100	70-130	0	20	
1,1,2-Trichloroethane	ug/L	50	53.7	54.8	107	110	70-130	2	20	
1,1-Dichloroethane	ug/L	50	55.7	56.1	111	112	70-130	1	20	
1,1-Dichloroethene	ug/L	50	59.4	59.6	119	119	70-130	0	20	
1,2,4-Trichlorobenzene	ug/L	50	47.2	47.5	94	95	70-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	50	51.3	50.8	103	102	50-150	1	20	
1,2-Dibromoethane (EDB)	ug/L	50	54.1	54.3	108	109	70-130	0	20	
1,2-Dichlorobenzene	ug/L	50	50.4	51.1	101	102	70-130	1	20	
1,2-Dichloroethane	ug/L	50	54.9	55.1	110	110	70-131	0	20	
1,2-Dichloropropane	ug/L	50	55.8	55.2	112	110	70-130	1	20	
1,3-Dichlorobenzene	ug/L	50	51.4	51.2	103	102	70-130	0	20	
1,4-Dichlorobenzene	ug/L	50	50.0	50.1	100	100	70-130	0	20	
Benzene	ug/L	50	55.3	55.4	111	111	70-130	0	20	
Bromodichloromethane	ug/L	50	54.8	54.6	110	109	70-130	0	20	
Bromoform	ug/L	50	53.0	52.6	106	105	68-130	1	20	
Bromomethane	ug/L	50	35.5	38.6	71	77	38-137	8	20	

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

LABORATORY CONTROL SAMPLE & LCSD:		1144210		1144211							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Carbon tetrachloride	ug/L	50	56.6	57.6	113	115	70-130	2	20		
Chlorobenzene	ug/L	50	54.0	52.5	108	105	70-130	3	20		
Chloroethane	ug/L	50	55.2	55.1	110	110	70-136	0	20		
Chloroform	ug/L	50	54.5	54.9	109	110	70-130	1	20		
Chloromethane	ug/L	50	52.7	54.1	105	108	48-144	3	20		
cis-1,2-Dichloroethene	ug/L	50	56.2	55.7	112	111	70-130	1	20		
cis-1,3-Dichloropropene	ug/L	50	53.5	53.3	107	107	70-130	0	20		
Dibromochloromethane	ug/L	50	53.0	53.2	106	106	70-130	0	20		
Dichlorodifluoromethane	ug/L	50	56.3	55.0	113	110	33-157	2	20		
Ethylbenzene	ug/L	50	55.2	54.3	110	109	70-132	1	20		
Isopropylbenzene (Cumene)	ug/L	50	55.4	54.5	111	109	70-130	2	20		
m&p-Xylene	ug/L	100	113	110	113	110	70-131	3	20		
Methyl-tert-butyl ether	ug/L	50	56.5	56.3	113	113	48-141	0	20		
Methylene Chloride	ug/L	50	53.4	53.0	107	106	70-130	1	20		
o-Xylene	ug/L	50	54.5	53.8	109	108	70-131	1	20		
Styrene	ug/L	50	54.8	54.5	110	109	70-130	1	20		
Tetrachloroethene	ug/L	50	53.3	53.5	107	107	70-130	0	20		
Toluene	ug/L	50	54.4	53.6	109	107	70-130	2	20		
trans-1,2-Dichloroethene	ug/L	50	58.7	58.6	117	117	70-130	0	20		
trans-1,3-Dichloropropene	ug/L	50	51.5	51.0	103	102	70-130	1	20		
Trichloroethene	ug/L	50	56.0	55.7	112	111	70-130	0	20		
Trichlorofluoromethane	ug/L	50	59.8	58.9	120	118	50-150	2	20		
Vinyl chloride	ug/L	50	59.6	59.0	119	118	65-142	1	20		
4-Bromofluorobenzene (S)	%				101	100	70-130				
Dibromofluoromethane (S)	%				102	103	70-130				
Toluene-d8 (S)	%				97	96	70-130				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1144407		1144408								
Parameter	Units	40113386006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	57.0	56.8	114	114	70-130	0	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	50.6	52.3	101	105	70-130	3	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	53.8	54.6	108	109	70-130	1	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	55.3	55.8	111	112	70-134	1	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	59.6	58.6	119	117	70-139	2	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	48.7	49.7	96	98	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	48.2	54.3	96	109	50-150	12	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	54.2	55.2	108	110	70-130	2	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	49.9	50.4	100	101	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	54.6	54.9	109	110	70-132	1	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	55.1	54.4	110	109	70-130	1	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	50.8	51.6	102	103	70-130	2	20	
1,4-Dichlorobenzene	ug/L	0.78J	50	50	50.5	50.9	99	100	70-130	1	20	

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Parameter	Units	40113386006		1144407		1144408		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Benzene	ug/L	0.77J	50	50	55.2	56.1	109	111	70-130	2	20		
Bromodichloromethane	ug/L	<0.50	50	50	54.7	54.4	109	109	70-132	1	20		
Bromoform	ug/L	<0.50	50	50	52.3	52.9	105	106	68-130	1	20		
Bromomethane	ug/L	<2.4	50	50	42.9	44.4	86	89	38-141	4	20		
Carbon tetrachloride	ug/L	<0.50	50	50	56.6	57.4	113	115	70-130	1	20		
Chlorobenzene	ug/L	<0.50	50	50	53.5	53.9	107	108	70-130	1	20		
Chloroethane	ug/L	<0.37	50	50	55.2	56.5	110	113	66-152	2	20		
Chloroform	ug/L	<2.5	50	50	54.2	54.1	108	108	70-130	0	20		
Chloromethane	ug/L	<0.50	50	50	53.3	52.9	107	106	44-151	1	20		
cis-1,2-Dichloroethene	ug/L	2.9	50	50	58.5	58.5	111	111	70-130	0	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	53.2	53.3	106	107	70-130	0	20		
Dibromochloromethane	ug/L	<0.50	50	50	52.1	52.7	104	105	70-130	1	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	54.4	55.3	109	111	29-160	2	20		
Ethylbenzene	ug/L	<0.50	50	50	54.5	54.8	109	110	70-132	1	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	55.0	54.3	110	109	70-130	1	20		
m&p-Xylene	ug/L	<1.0	100	100	111	110	111	110	70-131	1	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	56.5	56.4	113	113	48-143	0	20		
Methylene Chloride	ug/L	<0.23	50	50	52.4	52.8	105	106	70-130	1	20		
o-Xylene	ug/L	<0.50	50	50	54.8	54.2	110	108	70-131	1	20		
Styrene	ug/L	<0.50	50	50	54.9	53.7	110	107	70-130	2	20		
Tetrachloroethene	ug/L	<0.50	50	50	53.5	53.1	107	106	70-130	1	20		
Toluene	ug/L	<0.50	50	50	54.3	53.9	109	108	70-130	1	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	58.4	57.6	117	115	70-132	1	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	50.8	51.2	102	102	70-130	1	20		
Trichloroethene	ug/L	<0.33	50	50	56.2	55.7	112	111	70-130	1	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	57.7	58.3	115	117	50-153	1	20		
Vinyl chloride	ug/L	0.35J	50	50	58.9	58.7	117	117	60-155	0	20		
4-Bromofluorobenzene (S)	%						101	101	70-130				
Dibromofluoromethane (S)	%						101	101	70-130				
Toluene-d8 (S)	%						98	98	70-130				

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME
Pace Project No.: 40113402

QC Batch: MSV/28122 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40113402009

METHOD BLANK: 1144216 Matrix: Water
Associated Lab Samples: 40113402009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	04/21/15 16:13	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	04/21/15 16:13	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	04/21/15 16:13	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	04/21/15 16:13	
1,1-Dichloroethane	ug/L	<0.24	1.0	04/21/15 16:13	
1,1-Dichloroethene	ug/L	<0.41	1.0	04/21/15 16:13	
1,1-Dichloropropene	ug/L	<0.44	1.0	04/21/15 16:13	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	04/21/15 16:13	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	04/21/15 16:13	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	04/21/15 16:13	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	04/21/15 16:13	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	04/21/15 16:13	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	04/21/15 16:13	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	04/21/15 16:13	
1,2-Dichloroethane	ug/L	<0.17	1.0	04/21/15 16:13	
1,2-Dichloropropane	ug/L	<0.23	1.0	04/21/15 16:13	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	04/21/15 16:13	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	04/21/15 16:13	
1,3-Dichloropropane	ug/L	<0.50	1.0	04/21/15 16:13	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	04/21/15 16:13	
2,2-Dichloropropane	ug/L	<0.48	1.0	04/21/15 16:13	
2-Chlorotoluene	ug/L	<0.50	1.0	04/21/15 16:13	
4-Chlorotoluene	ug/L	<0.21	1.0	04/21/15 16:13	
Benzene	ug/L	<0.50	1.0	04/21/15 16:13	
Bromobenzene	ug/L	<0.23	1.0	04/21/15 16:13	
Bromochloromethane	ug/L	<0.34	1.0	04/21/15 16:13	
Bromodichloromethane	ug/L	<0.50	1.0	04/21/15 16:13	
Bromoform	ug/L	<0.50	1.0	04/21/15 16:13	
Bromomethane	ug/L	<2.4	5.0	04/21/15 16:13	
Carbon tetrachloride	ug/L	<0.50	1.0	04/21/15 16:13	
Chlorobenzene	ug/L	<0.50	1.0	04/21/15 16:13	
Chloroethane	ug/L	<0.37	1.0	04/21/15 16:13	
Chloroform	ug/L	<2.5	5.0	04/21/15 16:13	
Chloromethane	ug/L	<0.50	1.0	04/21/15 16:13	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	04/21/15 16:13	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	04/21/15 16:13	
Dibromochloromethane	ug/L	<0.50	1.0	04/21/15 16:13	
Dibromomethane	ug/L	<0.43	1.0	04/21/15 16:13	
Dichlorodifluoromethane	ug/L	<0.22	1.0	04/21/15 16:13	
Diisopropyl ether	ug/L	<0.50	1.0	04/21/15 16:13	
Ethylbenzene	ug/L	<0.50	1.0	04/21/15 16:13	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME
Pace Project No.: 40113402

METHOD BLANK: 1144216 Matrix: Water
Associated Lab Samples: 40113402009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	04/21/15 16:13	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	04/21/15 16:13	
m&p-Xylene	ug/L	<1.0	2.0	04/21/15 16:13	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	04/21/15 16:13	
Methylene Chloride	ug/L	<0.23	1.0	04/21/15 16:13	
n-Butylbenzene	ug/L	<0.50	1.0	04/21/15 16:13	
n-Propylbenzene	ug/L	<0.50	1.0	04/21/15 16:13	
Naphthalene	ug/L	<2.5	5.0	04/21/15 16:13	
o-Xylene	ug/L	<0.50	1.0	04/21/15 16:13	
p-Isopropyltoluene	ug/L	<0.50	1.0	04/21/15 16:13	
sec-Butylbenzene	ug/L	<2.2	5.0	04/21/15 16:13	
Styrene	ug/L	<0.50	1.0	04/21/15 16:13	
tert-Butylbenzene	ug/L	<0.18	1.0	04/21/15 16:13	
Tetrachloroethene	ug/L	<0.50	1.0	04/21/15 16:13	
Toluene	ug/L	<0.50	1.0	04/21/15 16:13	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	04/21/15 16:13	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	04/21/15 16:13	
Trichloroethene	ug/L	<0.33	1.0	04/21/15 16:13	
Trichlorofluoromethane	ug/L	<0.18	1.0	04/21/15 16:13	
Vinyl chloride	ug/L	<0.18	1.0	04/21/15 16:13	
4-Bromofluorobenzene (S)	%	96	70-130	04/21/15 16:13	
Dibromofluoromethane (S)	%	99	70-130	04/21/15 16:13	
Toluene-d8 (S)	%	100	70-130	04/21/15 16:13	

LABORATORY CONTROL SAMPLE & LCSD: 1144217

1144218

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.9	49.0	102	98	70-130	4	20	
1,1,2,2-Tetrachloroethane	ug/L	50	47.7	48.0	95	96	70-130	1	20	
1,1,2-Trichloroethane	ug/L	50	50.6	48.8	101	98	70-130	4	20	
1,1-Dichloroethane	ug/L	50	48.8	46.7	98	93	70-130	5	20	
1,1-Dichloroethene	ug/L	50	51.8	49.7	104	99	70-130	4	20	
1,2,4-Trichlorobenzene	ug/L	50	43.2	45.1	86	90	70-130	4	20	
1,2-Dibromo-3-chloropropane	ug/L	50	44.9	49.5	90	99	50-150	10	20	
1,2-Dibromoethane (EDB)	ug/L	50	50.0	50.3	100	101	70-130	1	20	
1,2-Dichlorobenzene	ug/L	50	48.9	47.5	98	95	70-130	3	20	
1,2-Dichloroethane	ug/L	50	47.9	46.4	96	93	70-131	3	20	
1,2-Dichloropropane	ug/L	50	49.3	46.9	99	94	70-130	5	20	
1,3-Dichlorobenzene	ug/L	50	48.9	47.0	98	94	70-130	4	20	
1,4-Dichlorobenzene	ug/L	50	47.9	47.1	96	94	70-130	2	20	
Benzene	ug/L	50	48.3	46.5	97	93	70-130	4	20	
Bromodichloromethane	ug/L	50	49.8	47.3	100	95	70-130	5	20	
Bromoform	ug/L	50	48.4	49.5	97	99	68-130	2	20	
Bromomethane	ug/L	50	32.9	34.3	66	69	38-137	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

LABORATORY CONTROL SAMPLE & LCSD:		1144217		1144218							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Carbon tetrachloride	ug/L	50	49.9	49.5	100	99	70-130	1	20		
Chlorobenzene	ug/L	50	50.7	49.6	101	99	70-130	2	20		
Chloroethane	ug/L	50	47.7	45.5	95	91	70-136	5	20		
Chloroform	ug/L	50	48.8	46.4	98	93	70-130	5	20		
Chloromethane	ug/L	50	44.0	40.5	88	81	48-144	8	20		
cis-1,2-Dichloroethene	ug/L	50	48.9	46.3	98	93	70-130	6	20		
cis-1,3-Dichloropropene	ug/L	50	47.5	46.5	95	93	70-130	2	20		
Dibromochloromethane	ug/L	50	50.2	47.7	100	95	70-130	5	20		
Dichlorodifluoromethane	ug/L	50	43.9	37.3	88	75	33-157	16	20		
Ethylbenzene	ug/L	50	51.5	50.7	103	101	70-132	1	20		
Isopropylbenzene (Cumene)	ug/L	50	51.7	50.1	103	100	70-130	3	20		
m&p-Xylene	ug/L	100	105	102	105	102	70-131	3	20		
Methyl-tert-butyl ether	ug/L	50	45.8	45.8	92	92	48-141	0	20		
Methylene Chloride	ug/L	50	46.2	44.2	92	88	70-130	4	20		
o-Xylene	ug/L	50	51.1	49.7	102	99	70-131	3	20		
Styrene	ug/L	50	51.7	50.5	103	101	70-130	2	20		
Tetrachloroethene	ug/L	50	51.4	49.3	103	99	70-130	4	20		
Toluene	ug/L	50	51.6	49.0	103	98	70-130	5	20		
trans-1,2-Dichloroethene	ug/L	50	51.0	49.0	102	98	70-130	4	20		
trans-1,3-Dichloropropene	ug/L	50	47.1	47.0	94	94	70-130	0	20		
Trichloroethene	ug/L	50	51.4	49.1	103	98	70-130	5	20		
Trichlorofluoromethane	ug/L	50	52.1	49.0	104	98	50-150	6	20		
Vinyl chloride	ug/L	50	50.2	45.5	100	91	65-142	10	20		
4-Bromofluorobenzene (S)	%				100	101	70-130				
Dibromofluoromethane (S)	%				100	99	70-130				
Toluene-d8 (S)	%				100	100	70-130				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1144725		1144726								
Parameter	Units	40113421001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	46.5	50.9	93	102	70-130	9	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	47.4	51.1	95	102	70-130	8	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	50.0	52.8	100	106	70-130	5	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	43.9	48.3	88	97	70-134	10	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	47.7	51.5	95	103	70-139	8	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	50.1	48.1	100	96	70-130	4	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	46.7	52.7	93	105	50-150	12	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	50.0	52.6	100	105	70-130	5	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	50.5	49.8	101	100	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	43.2	49.2	86	98	70-132	13	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	48.6	50.4	97	101	70-130	4	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	51.2	50.7	102	101	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	50.1	49.5	100	99	70-130	1	20	

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QUALITY CONTROL DATA

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Parameter	Units	40113421001		1144725		1144726		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Benzene	ug/L	<0.50	50	50	43.6	47.8	87	96	70-130	9	20		
Bromodichloromethane	ug/L	<0.50	50	50	49.5	50.5	99	101	70-132	2	20		
Bromoform	ug/L	<0.50	50	50	49.3	52.3	99	105	68-130	6	20		
Bromomethane	ug/L	<2.4	50	50	32.2	35.1	64	70	38-141	9	20		
Carbon tetrachloride	ug/L	<0.50	50	50	46.2	51.5	92	103	70-130	11	20		
Chlorobenzene	ug/L	<0.50	50	50	50.5	51.2	101	102	70-130	1	20		
Chloroethane	ug/L	<0.37	50	50	42.8	47.3	86	95	66-152	10	20		
Chloroform	ug/L	<2.5	50	50	43.4	48.8	87	98	70-130	12	20		
Chloromethane	ug/L	<0.50	50	50	41.1	44.5	82	89	44-151	8	20		
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	44.4	48.6	89	97	70-130	9	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	47.6	48.7	95	97	70-130	2	20		
Dibromochloromethane	ug/L	<0.50	50	50	50.0	51.7	100	103	70-130	3	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	42.9	46.9	86	94	29-160	9	20		
Ethylbenzene	ug/L	<0.50	50	50	51.9	52.5	104	105	70-132	1	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	52.5	53.1	105	106	70-130	1	20		
m&p-Xylene	ug/L	<1.0	100	100	105	106	105	106	70-131	1	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	41.4	48.6	83	97	48-143	16	20		
Methylene Chloride	ug/L	<0.23	50	50	41.7	46.3	83	93	70-130	11	20		
o-Xylene	ug/L	<0.50	50	50	51.2	52.3	102	105	70-131	2	20		
Styrene	ug/L	<0.50	50	50	51.2	53.0	102	106	70-130	3	20		
Tetrachloroethene	ug/L	<0.50	50	50	51.8	52.4	104	105	70-130	1	20		
Toluene	ug/L	<0.50	50	50	51.2	52.6	102	105	70-130	3	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	46.7	50.0	93	100	70-132	7	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	46.8	49.1	94	98	70-130	5	20		
Trichloroethene	ug/L	<0.33	50	50	51.3	51.8	103	104	70-130	1	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	48.1	52.5	96	105	50-153	9	20		
Vinyl chloride	ug/L	1.1	50	50	47.2	51.1	92	100	60-155	8	20		
4-Bromofluorobenzene (S)	%						100	100	70-130				
Dibromofluoromethane (S)	%						89	99	70-130				
Toluene-d8 (S)	%						100	101	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 58127047 WI CHROME

Pace Project No.: 40113402

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58127047 WI CHROME

Pace Project No.: 40113402

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40113402005	P-7B	EPA 3010	MPRP/11798	EPA 6010	ICP/10473
40113402001	MW-2	EPA 6010	ICP/10465		
40113402002	MW-6R	EPA 6010	ICP/10465		
40113402003	MW-7R	EPA 6010	ICP/10465		
40113402004	P-7A	EPA 6010	ICP/10465		
40113402006	MW-10	EPA 6010	ICP/10465		
40113402007	MW-12	EPA 6010	ICP/10465		
40113402002	MW-6R	EPA 8260	MSV/28120		
40113402003	MW-7R	EPA 8260	MSV/28120		
40113402004	P-7A	EPA 8260	MSV/28120		
40113402005	P-7B	EPA 8260	MSV/28120		
40113402008	DUP-1	EPA 8260	MSV/28120		
40113402009	TRIP BLANK	EPA 8260	MSV/28122		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical

Project #

Client Name: Terracon

WO#: **40113402**

Courier: Fed Ex UPS Client Pace Other: CS Logistic



Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used mm

Type of Ice: Wet Blue Dry None

Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 201 / Corr: _____

Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 4-18-15
Initials: mm

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>005 - time on sample label 1400.</u> <u>008 - annotation on COC, no time for</u> <u>dup-1, mm 4-18-15</u>
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: <u>VOA</u> coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>mm</u> Lab Std #ID of preservative Date/Time:
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: *trip blank added to COC. mm 4-18-15

Project Manager Review: JJ for DMU

Date: 4-18-15

APPENDIX D
FORM 4400-194

GENERAL INSTRUCTIONS, PURPOSE AND APPLICABILITY OF THIS FORM: Completion of this form is required under s. NR 724.13(3), Wis. Adm. Code. A narrative report or letter containing the equivalent information required in this form may be submitted in lieu of the actual form. Failure to submit this form as required is a violation of s. NR 724.13(3), Wis. Adm. Code, and is subject to the penalties in s. 292.99, Wis. Stats. This form must be submitted every six months for soil or groundwater remediation projects that report operation and maintenance progress in accordance with s. NR 724.13(3), Wis. Adm. Code.

Note: Long-term monitoring results submitted in accordance with s. NR 724.17(3), Wis. Adm. Code are required to be submitted within 10 business days of receiving sampling results and are not required to be submitted using this form. However, portions of this form require monitoring data summary information that may be based on information previously submitted in accordance with s. NR 724.17(3), Wis. Adm. Code.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if this form is required to be submitted at sites responded to under the Federal Comprehensive Environmental Response and Compensation Act (commonly known as Superfund) or an equivalent State lead Superfund response.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if any of the information required in this form may be omitted or changed and obtain prior written approval for any omissions or changes.

Submittal of this form is not a substitute for reporting required by Department programs such as Waste Water or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31-19.39, Wis. Stats.). Unless otherwise noted, all citations refer to Wisconsin Administrative Code.

Note: There is a separate semi-annual report required under s. NR 700.11(1), Wis. Adm. Code. Reporting under that provision is through an internet-based form:

<http://dnr.wi.gov/topic/Brownfields/documents/regs/NR700progreport.pdf>

Section GI - General Site Information

A. General Information

1. Site name

Wisconsin Chrome

2. Reporting period from:	11/01/2014	To:	04/30/2015	Days in period:	181
---------------------------	------------	-----	------------	-----------------	-----

3. Regulatory agency (enter DNR, DATCP and/or other)	4. BRRTS ID No. (2 digit program-2 digit county-6 digit site specific)
DNR	02-45-000225

5. Site location

Region	County	Address				
Northeast Region	Outagamie	2101 Hyland Avenue				
Municipality name	<input checked="" type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village		Township	Range	<input checked="" type="radio"/> E <input type="radio"/> W	Section 1/4 1/4 NE NE
Kaukauna			21 N	18	OW	

6. Responsible party	7. Consultant	
Name	<input type="checkbox"/> Select if the following information has changed since the last submittal	
Mailing address	Company name	
410 S Elm Street, Appleton, WI 54911	Terracon Consultants Inc.	
Phone number	Mailing address	Phone number
(920) 832-1855	9856 S 57th Street, Franklin, WI 53132	(414) 423-0255

8. Contaminants
 chromium and volatile organic compounds

9. Soil types (USCS or USDA)
 SM, ML, CL

10. Hydraulic conductivity(cm/sec): We do not have site investigation data for this site	11. Average linear velocity of groundwater (ft/yr) We do not have site investigation data for this site
---	--

12. If soil is treated ex situ, is the treatment location off site? Yes No

If yes, give location: Region _____ County _____

Municipality name	<input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village		Township	Range	<input type="radio"/> E <input type="radio"/> W	Section 1/4 1/4
			N		OW	

Site name: Wisconsin Chrome

Reporting period from: 11/01/2014 To: 04/30/2015

Days in period: 181

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B. Remediation Method

Only submit sections that apply to an individual site. Check all that apply:

- Groundwater extraction (submit a completed Section GW-1).
- Free product recovery (submit a completed Section GW-1).
- In situ air sparging (submit a completed Section GW-2).
- Groundwater natural attenuation (submit a completed Section GW-3).
- Other groundwater remediation method (submit a completed Section GW-4).
- Soil venting (including soil vapor extraction building venting and bioventing submit a completed Section IS-1).
- Soil natural attenuation (submit a completed Section IS-2).
- Other in situ soil remediation method (submit a completed Section IS-3).
- Biopiles (submit a completed Section ES-1).
- Landspreading/thinspreading of petroleum contaminated soil (submit a completed Section ES-2).
- Other ex situ remediation method (submit a completed Section ES-3).
- Site is a landfill (submit a completed Section LF-1).

C. General Effectiveness Evaluation for All Active Systems

If the remediation is active (not natural attenuation), complete this subsection.

1. Is the system operating at design rates and specifications? Yes No

If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design.

2. Are modifications to the system warranted to improve effectiveness Yes No

If yes, explain:

3. Is natural attenuation an effective low cost option at this time? Yes No

4. Is closure sampling warranted at this time? Yes No

5. Are there any modifications that can be made to the remediation to improve cost effectiveness? Yes No

If yes, explain:

directly address VOC contamination to reduce operation time of the groundwater extraction system

D. Economic and Cost Data to Date

1. Total investigation cost: Unknown, WDNR

2. Implementation costs (design, capital and installation costs, excluding investigation costs: Unknown, WDNR has \$

3. Total costs during the previous reporting period: \$18,768.51

4. Total costs during this reporting period: \$17,696.47

5. Total anticipated costs for the next reporting period: \$16,000

6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above? Yes No

If yes, explain:

D4: Caustic Pump Replacement, transfer pump replacement

D5: P-2A abandonment; construction of replacement well P-2AR; well repair; extra filter costs; acid and caustic drum removal

7. If closure is anticipated within 12 months, estimated costs for project closeout: _____

Site name: Wisconsin Chrome

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E. Name(s), Signature(s) and Date of Person(s) Submitting Form

Legibly print name, date and sign. Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form for sites with any ongoing active remediation, monitoring or an investigation. Other persons may sign this form for sites with no response activities during the six month reporting period.

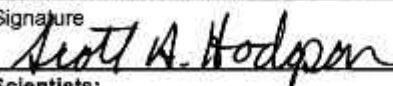
Registered Professional Engineers:

I hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Blaine R. Schroyer, P.E.	Principal/Office Manager
Signature 	Date
	6/8/15

Hydrogeologists:

I hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Scott A. Hodgson, P.G.	Senior Project Manager
Signature 	Date
	6/8/15

Scientists:

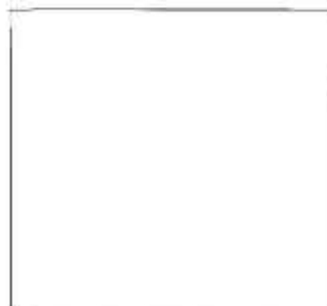
I hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Signature	Date

Other Persons:

Print name	Title
Signature	Date

Professional Seal(s), if applicable:



Site name: Wisconsin Chrome

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Section GW-1, Groundwater Pump and Treat Systems and Free Product Recovery Systems

A. Groundwater Extraction System Operation:

1. Total number of groundwater extraction wells or trenches available: 2 and the number in use during period: 2

2. Number of days of operation (only list the number of days the system actually operated, if unknown explain:
181; The system was operable during the entire reporting period; however, due to low groundwater levels, the system did not pump water from late January through mid-March

3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain:
100

4. Quantity of groundwater extracted during this time period: 103,911 gallons

5. Average groundwater extraction rate: 0.4 gpm

6. Quantity of dissolved phase contaminants removed during this time period in pounds: Cr= 0.3; VOC = 0.75 lbs

B. Free Product Recovery System Operation

1. Is free product (nonaqueous phase liquid) being recovered at this site? Yes No

If yes, explain:

2. Quantity of free product extracted during this time period (enter none if none): _____ gallons

3. Average free product extraction rate: _____ gpm

C. System Effectiveness Evaluation

1. Is a contaminated groundwater plume fully contained in the capture zone? Yes No

If no, explain:

Both total chromium and VOCs extend east and west of the Trench A capture zone. The total chromium plume is being addressed via chemical injection. There will be future remedial action to address the VOCs

2. If free product is present, is the free product fully contained in capture zone? Yes No

If no, explain:

3. If free product is present in any wells at the site, but free product was not recovered during reporting period, explain:

4. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in C.4.a.

a. Contaminant: 1,1-dichloroethene; 99.04% for ES and 99.90% for PAL

b. Percent reduction necessary to reach ch. NR 140 ES and PAL: 99.04 %

c. Maximum contaminant concentration level in any monitoring well of that contaminant: 736; P-7B µg/L

d. Maximum contaminant concentration level in any extraction well of that contaminant: 1130; Sump A 11/13/14 µg/L

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Reporting period from: 11/01/2014 To: 04/30/2015

Days in period: 181

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- e. If the maximum concentration in a monitoring well is more than one order of magnitude above the concentration measured in an extraction well, explain why the extracted groundwater contamination levels are significantly less than the levels at other locations within the aquifer.

D. Additional Attachments

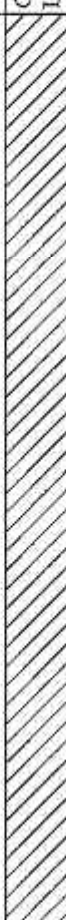

Attach the following to this form:

- Most recent report to the DNR Wastewater Program, if applicable.
- Groundwater contour map with capture zone indicated.
- Groundwater contaminant distribution map (may be combined with contour map).
- Graph of cumulative contaminant removal, if both free product recovery and ground water extraction are used, provide separate graphs.
- Time versus groundwater contaminant concentration graphs for the contaminant listed in C.4.a. (above), as follows:
 - Graph of contaminant concentrations versus time for each extraction well in use during the period.
 - Graph of contaminant concentrations versus time for the monitoring well with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- System operational data table.

APPENDIX E
BORING LOG AND MONITORING WELL FORMS

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WI Chrome		License/Permit/Monitoring Number		Boring Number P2AR	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental			Date Drilling Started 4/22/2015	Date Drilling Completed 4/22/2015	Drilling Method hollow stem auger
WI Unique Well No. V0687	DNR Well ID No.	Common Well Name P2AR	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 8.3 inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N			Local Grid Location		
NE 1/4 of NE 1/4 of Section 13, T 21 N, R 18 E			Lat _____ " _____ "	Long _____ " _____ "	Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> W
Facility ID		County Outagamie	County Code 45	Civil Town/City/ or Village Kaukana	

Sample		Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)							Blow Counts	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	
			Blind Drilled next to well P2A										
		2.5	Auger Cuttings consist of Silty Clay, reddish brown	CL									
		5.0											
		7.5											
		10.0											
		12.5											
		15.0											
		17.5											
		20.0											
		22.5											
		25.0											
		27.5											
		30.0											
		32.5											
			End of Boring @ 33.5'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm Terracon Consultants Inc 9856 South 57th Street Franklin, Wisconsin 53132	Tel: 414.423.0255 Fax: 414.423.0566
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Facility/Project Name WI Chrome	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name P-2AR
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/> Lat. _____ Long. _____	Wis. Unique Well No. V0687 DNR Well ID No.
Facility ID	St. Plane _____ ft. N. _____ ft. E. SAC/N	Date Well Installed 04/23/2015 m m d d y y y y
Type of Well Well Code PMW 11	Section Location of Waste/Source 1/4 of _____ 1/4 of Sec. _____ T. _____ N. R. <input type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm OES
Distance from Waste/Source _____ ft.	Enf. Stds. Apply <input type="checkbox"/>	A. Kapugi
	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation _____ ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation _____ ft. MSL	2. Protective cover pipe: a. Inside diameter: 8 in.
C. Land surface elevation _____ ft. MSL	b. Length: 1 ft.
D. Surface seal, bottom _____ ft. MSL or .5 ft.	c. Material: Steel <input checked="" type="checkbox"/> 0.4 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Surface seal: Bentonite <input type="checkbox"/> 3.0 Concrete <input checked="" type="checkbox"/> 0.1 Other <input type="checkbox"/>
14. Drilling method used: Rotary <input type="checkbox"/> 5.0 Hollow Stem Auger <input checked="" type="checkbox"/> 4.1 Other <input type="checkbox"/>	4. Material between well casing and protective pipe: SAND/Bent. <input type="checkbox"/> 3.0 Other <input checked="" type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 0.2 Air <input type="checkbox"/> 0.1 Drilling Mud <input type="checkbox"/> 0.3 None <input checked="" type="checkbox"/> 9.9	5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 3.3 b. _____ Lbs/gal mud weight... Bentonite-sand slurry <input type="checkbox"/> 3.5 c. _____ Lbs/gal mud weight... Bentonite slurry <input type="checkbox"/> 3.1 d. _____ % Bentonite... Bentonite-cement grout <input type="checkbox"/> 5.0 e. 8 Ft ³ volume added for any of the above
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	f. How installed: Tremie <input type="checkbox"/> 0.1 Tremie pumped <input type="checkbox"/> 0.2 Gravity <input checked="" type="checkbox"/> 0.8
Describe: _____	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3.3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input type="checkbox"/> 3.2 c. Other <input type="checkbox"/>
17. Source of water (attach analysis, if required): _____	7. Fine sand material: Manufacturer, product name & mesh size a. Unimin 5010
E. Bentonite seal, top _____ ft. MSL or 0.1 ft.	b. Volume added .5 ft ³
F. Fine sand, top _____ ft. MSL or 0.24 ft.	8. Filter pack material: Manufacturer, product name & mesh size Sidley Ohio #5
G. Filter pack, top _____ ft. MSL or 2.6 ft.	b. Volume added 2 ft ³
H. Screen joint, top _____ ft. MSL or 2.9 ft.	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2.3 Flush threaded PVC schedule 80 <input type="checkbox"/> 2.4 Other <input type="checkbox"/>
I. Well bottom _____ ft. MSL or 3.3 ft.	10. Screen material: PVC
J. Filter pack, bottom _____ ft. MSL or 33.5 ft.	a. Screen type: Factory cut <input checked="" type="checkbox"/> 1.1 Continuous slot <input type="checkbox"/> 0.1 Other <input type="checkbox"/>
K. Borehole, bottom _____ ft. MSL or 33.5 ft.	b. Manufacturer Monoflex
L. Borehole, diameter 8.25 in.	c. Slot size: 0.010 in.
M. O.D. well casing 2.33 in.	d. Slotted length: 1.0 ft.
N. I.D. well casing 2.03 in.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1.4 Other <input type="checkbox"/>

I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature **A. Kapugi** Firm **OES**

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Route to:
 Drinking Water Watershed/Wastewater Waste Management Remediation/Redevelopment Other: _____

1. General Information **2. Facility / Owner Information**

WI Unique Well No. _____		DNR Well ID No. _____		County 45		Facility Name WI Chrome	
Common Well Name P-2A		Gov't Lot # (if applicable) _____		Facility ID _____		License/Permit/Monitoring No. _____	
Section _____		Township N		Range _____		City, Village or Town _____	
Street Address of Well 2101 Hyland Ave		Present Well Owner _____		Original Well Owner _____		Street Address or Route of Owner _____	
City Kaukaunoi		State WI		ZIP Code 53590		Reason For Abandonment _____	

3. Well / Drillhole / Borehole Information **4. Pump, Liner, Screen, Casing & Sealing Material**

<input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Borehole / Drillhole		Original Construction Date ??? If a Well Construction Report is available, please attach.		Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Casing left in place? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Was casing cut off below surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did sealing material rise to surface? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (specify): _____		Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input checked="" type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____		Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Chips	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Total Well Depth From Groundsurface (ft.) 33 Lower Drillhole Diameter (in.) 1.25 Casing Diameter (in.) 2 Casing Depth (ft.) _____		For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input checked="" type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry	
Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown		If yes, to what depth (feet)? _____		Depth to Water (feet) _____	

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Concrete	Surface	5	1/2 sack	
Neat Cement Grout	5	33	7 gallons.	

6. Comments

7. Supervision of Work		DNR Use Only	
Name of Person or Firm Doing Sealing Work OES		Date of Abandonment 4/22/15	Date Received _____
Street or Route P.O. Box 280		Telephone Number (608) 837-8992	Noted By _____
City Sun Prairie		State WI	Comments _____
ZIP Code 53590		Signature of Person Doing Work <i>[Signature]</i>	Date Signed 5/15/15